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BRIEF HISTORICAL NOTES ON MEAD'S CEREAL AND PABLUM

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THE EPIDEMIOLOGY OF POLIOMYELITIS*

By

D. G. Gill, M. D.

Montgomery, Ala.

Epidemiology has been defined as the science or doctrine of epidemics, but in usage the term has been expanded to include the mass phenomena of diseases in their endemic as well as their epidemic occurrences. It is recognized that the epidemic features of a disease must be considered in relation to its antecedent and subsequent history. For the clinical description of a disease the unit is the individual, but for epidemiology the unit is the population as a whole or some particular group of that population. Details such as local environment, personal habits, past history, relation and contact with a preceding case, possible immunity, etc., must be considered in the epidemiology of a disease as well as such information as age, sex, race and season.

Given all this information and knowing the causative agent it is frequently possible to prophesy for any particular disease the course it will pursue and to base preventive action on that knowledge. In the case of poliomyelitis we have not so far been able to answer all the questions. The disease is due to a filterable virus, is one of the young primarily, and a disease of warm weather. So much we know. Just how widespread the infection is in epidemic times, or, for that matter, in endemic times, is not known. The clinical picture is not always clear-cut enough to say with certainty that here is a case of poliomyelitis and that there is something else. If all cases were paralytic it might be possible but many are non-paralytic, and, in fact, the illness may be of a very minor nature. There has not been so far a reliable laboratory aid to diagnosis although some progress is being made in that direction. The monkey has proven to be the only satisfactory laboratory animal for experimental work and this in itself restricts laboratory procedures. Armstrong was able to infect the cotton rat with virus collected from an epidemic in Lansing but for other strains this animal has not proven satisfactory.

The virus has been recovered from the nose and throat of certain cases, from the intestinal discharges of other cases, and has been found in sewage. This past year, for the second time in history, the disease was given to a monkey by an injection of flies collected near cases of poliomyelitis. Two conflicting schools of thought, therefore, exist: (1) that it is a respiratory infection; (2) that it is an intestinal infection. Neither can be excluded at the present time. A third possibility, that flies or some other insects are involved in the spread, has some supporters, based primarily on the seasonal incidence but bolstered now by the experiments with flies.

The epidemic in Alabama in 1941 was the most extensive outbreak on record in the state and it conformed to previous experience in its course. The disease began in late June, reached its peak in early August, and had largely subsided by the end of October. Of the 871 cases reported, 705 were white. Five hundred seventy-two (572), or 66 per cent, were four years of age or under, and 703, or 81 per cent, were under ten. Adult cases of ages 15 and above numbered 79, or less than 10 per cent. Geographically it first appeared in Pickens County but was soon recognized at widely separated points. Walker County eventually had the distinction of leading the state, with Jefferson, Etowah and Calhoun having a high incidence. Several counties in the state did not report

*Read before the Association in annual session, Montgomery, April 22, 1942.

a single case. St. Clair was one of these and is the most difficult to explain. Though surrounded by counties with numerous cases it escaped the infection. Investigation of all rumors and a survey of the schools showed only one possible clinical case. Poliomyelitis has not hitherto observed county lines.

Much progress has been made in the investigation of poliomyelitis and the answer to some of the perplexing problems may not be far off. A laboratory confirmation of the disease is needed. A simpler method for the detection of the virus and a test as to the susceptibility of an individual would clear up much of the mystery at present surrounding this disease.

THE PATHOLOGY OF POLIOMYELITIS*

WITH SPECIAL REFERENCE TO OBSERVATIONS IN WALKER COUNTY, ALABAMA

By

Albert E. Casey, M. D.

New Orleans

It must be emphasized that the work about to be reported was a cooperative undertaking. It was sponsored by the National Foundation for Infantile Paralysis and by the Alabama and Walker County Departments of Public Health. Prompt, sympathetic and efficient support was rendered from the first of the epidemic in Walker County until the last of it by Dr. Don W. Gudakunst of the National Foundation, by the staffs of Dr. D. G. Gill of the Alabama Bureau of Preventable Diseases and of Dr. A. M. Waldrop, Walker County Health Officer. Detailed clinical examinations of the acute cases were begun by Dr. A. G. Gilliam of the U. S. Public Health Service and were continued by Dr. Bessie Mae Beach of the Alabama Bureau of Maternal and Child Health; detailed orthopedic examinations were made by Dr. Earle Conwell and members of the staff of the state's crippled children's service. To Mr. H. D. Driver, Walker County Sanitation Officer, to County Nurses Daniel and Knight, to Dr. H. A. Wenner, Department of Pediatrics, Yale University School of Medicine, and Dr. A. J. Perolio, Director of Typhus Control for Alabama, belongs the credit for the collection of mosquitoes, flies, paralyzed chickens, dogs and cats, rats, mice, lice, fleas, birds, roaches, worms, etc. The study of sera from controls and poliomyelitis patients was undertaken by Drs. Thomas Francis, Jr. and Harold E. Pearson of the School of Hygiene and Public Health of the University of Michigan and by Dr. Lloyd Jones of the Department of Bacteriology of St. Louis University School of Medicine; the organization of the clinics for serum studies was assisted by Miss Maud Henderson and Orthopedic Nurses Walker and Kittrell. We are indebted to Drs. John R. Paul and James D. Trask of Yale University School of Medicine for the examination of flies trapped in Cordova and Dora and for setting up in Walker County, for the study of stools, a field laboratory under the direction of Dr. Wenner, which at one time contained as many as 50 monkeys; to Dr. George S. Graham of Birmingham and his associates for performing the only complete postmortem examination which we were able to obtain on fatal cases in Walker County. The cooperation of the entire medical profession and of the lay public in Walker County was wholehearted. It is our belief that any success that may have been attained in the Walker County studies was due to the teamwork of a large number of persons, and it is a pleasure to take this occasion for expressing my own appreciation and that of the Foundation to all those who participated.

It is the purpose of this discussion to summarize observations on the pathology of poliomyelitis resulting from the epidemic as it occurred in Walker County during the summer and fall of 1941. The pathologic observations were geographic, clinical and experimental. Some of the work has not been completed and more has not been published but significant findings to date are as follows: first, the case incidence of the disease was greatest in Walker and Jefferson Counties and was about as high as has ever been reported; the incidence for the state of Alabama was second only to the New York epidemic of 1916. Second, the incidence of multiple cases in the same family was high, one family having 5 cases and several others 3

*Read before the Association in annual session, Montgomery, April 22, 1942.

The work was supported by the National Foundation for Infantile Paralysis, the Alabama State Health Department and the Health Department of Walker County.

From the Department of Pathology and Bacteriology, Louisiana State University School of Medicine.

each. Third, about 80 per cent of all patients had either visited or been visited by a prior case; no patient had been isolated during the three weeks prior to the onset of the illness.[1] Fourth, the virus was recovered from flies trapped in the vicinity of a privy used by the families of 4 acute cases.[2] Fifth, the disease has recurred at intervals of 4 to 5 years in Walker County for at least 50 years, the intervening years being free of paralytic cases. Sixth, the disease affected infants between 6 months and 2.5 years of age very largely, and dispels a current belief that rural poliomyelitis affects older individuals than the urban disease. Seventh, the concentration was greatest in Walker County communities with a water supply but no adequate sewage disposal system and confirms observations previously made in Louisiana.[3] Eighth, the epidemic reservoir of the virus was the patient at about the day of onset of the prodromal period. The infectious period was sharply within the last three days of the incubation period or the first three days of the prodromal period and in nearly every instance before the onset of paralysis. Fifty per cent of patients were exposed to the prior case on the day of onset of its prodromal period.[1] This was despite the fact that the virus was obtained from the stools of patients in Walker County as long as a month after the onset of the prodromal period.[4] Ninth, for the first time on record a large number of single visits and exposures was available for plotting the distribution of the incubation period. The incubation period ranged from 5 to 35 days but was usually between 12 and 14 days, with the possibility of a second peak at seven days.[5] Tenth, in a small neighborhood in Cordova the stools of every person were examined. Only those persons with clinical poliomyelitis had the virus in their stools.[4] Eleventh, ninety per cent of infants 1.5 to 2.5 years of age, exposed at the onset of the prodromal period to another case, developed within 4 to 21 days later a fever, and 60 per cent developed frank poliomyelitis; whereas 45 per cent of children 3.5 to 4.5 years of age, who were so exposed, developed a fever and only 20 per cent developed frank poliomyelitis.[5] This change in susceptibility to age is comparable with the picture in diphtheria and with experience in adapting other viruses to alien species.*

1. Casey, Albert E.: Observations on an Epidemic of Poliomyelitis, Science, 1942, 95: 359.

2. Paul, J. R.; Trask, J. D.; Bishop, M. B.; Melnick, J. L., and Casey, A. E.: Science, 1941, 94: 395.

3. Casey, Albert E., and Aymond, B. J.: The Geographic Distribution of Disease. A Decade of Poliomyelitis in Louisiana, Pub. Health Rep., 1940, 55: 1295.

4. Wenner, H. A., and Casey, A. E.: Stool Studies on an Entire Neighborhood Population during an Epidemic of Poliomyelitis, Proc. Interurban Club, Yale University School of Medicine, March 1942.

Cancer Control—Cancer has become one of the greatest killers in Alabama. With a rate of 63.2 it stood fourth from the top as cause of death in 1941. Heart disease, nephritis and intracranial lesions were the first three in the order named. Every physician knows the importance of early diagnosis with the institution of prompt and efficient treatment to effect a cure for cancer. It is also well known that many persons who have cancer are unable to pay for examination and proper treatment. Recognition is given to the valiant services being rendered by the Association's Committee on Cancer Control and by the Women's Field Army of the American Society for the Control of Cancer. However, these are not enough and it will require additional funds to cause any marked reduction in the number of deaths caused by cancer. It is, therefore, recommended by the Board that an act be introduced into the Legislature to secure an annual appropriation for carrying out the cancer control program.—*Transactions, M. A. Alabama,* 1942.

5. Casey, Albert E.: Poliomyelitis in Walker County, Alabama, in the Summer and Fall of 1942 (Exhibit), New Orleans Post-Graduate Medical Assembly, Roosevelt Hotel, New Orleans, La., March 1942.

*Thirteen lantern slides (omitted here for the sake of brevity) were presented as follows: two slides on the distribution of the disease in Alabama and in Walker County during 1941 with reference to the location of communities with water supply and no sewage disposal, fly traps, stool studies, serum studies, foci of spread and the chronology of spread, and the site of the case upon which postmortem examination was performed; two on the seasonal and age distribution; two on the incubation and infectious periods in the disease; one on contact studies; one (through the courtesy of Dr. Trask) on a spinal cord lesion in a monkey following inoculation of flies trapped at Cordova; three from a monkey inoculated with stools (through the courtesy of Dr. Wenner) of a patient in Cordova—one showing a cord lesion, another a perivascular collar involving meninges and the third a focal lesion in the dorsal spinal ganglion. The last two slides (through the courtesy of Dr. George S. Graham) showed an extensive lesion beneath the floor of the fourth ventricle and the other a severe lesion in the spinal cord in a little girl of seven months from Barney, in Walker County (the primary focus in Walker County and the first death).

THE ACUTE STAGE OF POLIOMYELITIS*

By

C. A. Grote, M. D.

Huntsville, Alabama

It is the acute stage of infantile paralysis which most concerns the general practitioner. It is the family doctor who is called to see an acutely ill child and upon him falls the responsibility of suspecting this dreaded disease, treating it in its early stages, and preparing the way for diagnostic and orthopedic consultations. It therefore behooves him to familiarize himself with every detail concerning its diagnosis and treatment. The disease begins with an initial stage of a general infection which lasts from a few hours to several days. There usually are fever, malaise, evidence of meningeal irritation, hyperesthesia, twitching, irritability and gastro-intestinal symptoms. Headache and stiffness of the neck are early symptoms which should always arouse one's suspicion, especially so during an epidemic of poliomyelitis. I say suspicion because an early diagnosis, before there is paralysis, is usually made on suspicion or intuition. Laboratory procedures are not positive but are most helpful. The blood shows moderate leukocytosis and the spinal fluid reveals a moderately increased cell count with many mononuclear leucocytes. We must remember, however, that these spinal fluid changes do not occur until the meninges are involved. In looking for early cases during the recent epidemic, I found myself testing the deep reflexes—knee jerks, ankle clonus, et cetera—until it dawned upon me that these signs are most excellent to tell whether the child has had infantile paralysis but not whether he is going to have it. The pathologist has already pointed out to us that infantile paralysis is not a disease of only the anterior horns of the spinal cord, but the lesions are widespread throughout the nervous system. It is really a generalized poliomyelo-encephalo-meningitis. This, of course, accounts for the fact we have so many different forms of the same disease.

1. The most common is the spinal form, followed by a flaccid paralysis of the limbs and the trunk, and often the muscles of respiration. The bladder and rectum are rarely involved.

2. In the bulbar form the cranial nerves are involved and a variety of lesions may follow. There may be difficulty in breathing or in swallowing, with paralysis of the facial, ocular, lingual or pharyngeal muscles, depending upon the involvement in the brain itself.

3. The progressive ascending form, usually called Landry's paralysis, begins in the feet and legs and ascends, usually resulting in death in four or five days.

4. Then, there is the meningeal form, which so much resembles cerebrospinal fever.

5. The cerebral form looks exactly like acute encephalitis.

6. And last, I shall mention the abortive type, which I believe is very widespread during any epidemic, but in which no paralysis ever occurs. During the epidemic last fall we had hundreds of cases of so-called influenza, colds, et cetera, to every definite case of infantile paralysis. I can not help wondering how many of these were carriers of poliomyelitis.

Once the diagnosis of acute poliomyelitis has been made the general practitioner must decide upon the plan of treatment of the acute stage. Until very recent years this was a fairly easy decision, with sedatives for the relief of pain, antipyretics for fever, and plaster casts or splints for the affected parts. The splints or casts were left for weeks, or at least until we thought the acute stage had passed, and then the residual paralysis was left to the care of the orthopedist. For a long time immune or convalescent serum gave a spark of hope but its impracticability lies in the fact it should be given before paralysis occurs and usually this is impossible. Then came the Drinkler respirator or iron lung. It was a great invention and most certainly has a definite place in the treatment of respiratory paralysis when it is certain that the lesion is in the spinal cord and not of the bulbar type. Analyzing the results obtained with the respirator at the Willard Parker Hospital in 1936 it was found that proper selection of patients is most essential since the apparatus was useful only in patients with paralysis of the respiratory muscles due to lesions in the spinal cord. The patients with lesions in the respiratory center of the brain all died. Patients whose

*Read before the Association in annual session, Montgomery, April 22, 1942.

respiratory difficulty is due to inability to swallow should never be put in an iron lung.

In recent years Sister Kenny, beginning in Australia as a bush nurse, developed the system of treating infantile paralysis without splints or casts, diligently using instead hot packs to relieve the pain, which she believes results from muscle spasm, and by beginning early in the disease passive motion of the affected parts. This is, of course, directly opposed to the orthodox medical plan of treatment. It is still being given a thorough trial and study by the National Foundation for Infantile Paralysis under thoroughly competent medical supervision. She has certainly caused us to stop and think. It is my belief at the present moment that the truth is probably in the middle ground: that the Toronto splints and the Bradford frames, as furnished by the National Foundation, are indispensable; that hot packs or fomentations as advocated by Sister Kenny certainly do relieve the pain more effectively than all other methods and drugs combined; that very gentle massage and passive motion can be started so much sooner than we used to think; and, finally, the general practitioner should be quick to have orthopedic consultations and help from competent visiting nurses.

In closing, I want to express my genuine appreciation of the help rendered the doctors in Alabama by the state and county boards of health and the Alabama Crippled Children's Society when once the alarm is sounded that there is a suspected case of acute poliomyelitis and that their help will be welcomed.

State Legislation—It is anticipated that when the Alabama Legislature meets next January there will be many bills introduced for the benefit of individuals or groups, and at the same time having real significance to the health and medical professions. The accomplishments of some of these bills might prove detrimental to the best interests of society. Furthermore, legislation will be sponsored by the Association and its health department which should have the approval and intelligent support of the profession.

An excellent way to assure favorable legislation for the profession and society is to see that our law-making body is composed of persons who are kindly disposed toward physicians, human welfare and progress. Your wise and sane counsel will be needed for legislators to act favorably and intelligently on all health and medical questions which will claim their attention as our lawmakers.—*Transactions, M. A. Alabama,* 1942.

THE ORTHOPEDIC MANAGEMENT OF ANTERIOR POLIOMYELITIS*

By

H. Earle Conwell, M. D., F. A. C. S.
Birmingham, Alabama

On this symposium I am representing the orthopedic staff of the Alabama Crippled Children's Service, State Department of Education. Other staff members are Dr. John D. Sherrill, Birmingham, Dr. William Hannon, Mobile, and Dr. Marcus Skinner, Selma. I wish also to recognize Dr. J. B. Hobdy, Director, and Miss Thelma McGinty, Assistant Director, of the Alabama Crippled Children's Service, State Department of Education.

The Alabama State Health Department census of all cases of anterior poliomyelitis occurring in Alabama since 1923, which is the first year such records are available, shows that over three-fourths of all the cases have occurred during and since the year 1936, the worst epidemic being that of 1941 when 871 cases were reported.

The state is divided into three parts as to responsibility for and observation of orthopedic cases by the Alabama orthopedic staff. Over 75 per cent of all the anterior poliomyelitis cases which occurred in the epidemic last year lived in the upper half of the state. It was the opportunity of the entire orthopedic staff of the state of Alabama to closely supervise the treatment of practically every case of anterior poliomyelitis reported in the 1941 epidemic from the incipient stage to date.

In order to present a report and an authcritative analysis in as concise a manner as possible, I would like to relate some of my observations and results of cases which occurred last year in a rather concentrated area in Walker County, Alabama. Due to the fact that the concentration of these cases was so marked in this particular locality we can more authoritatively present results attained. However, these results are in no way superior to the treatment and care and results attained in other orthopedic areas of the state.

The height of the 1941 epidemic was in August. Our entire orthopedic staff in Walker County, with the aid of the Walker

*Read before the Association in annual session, Montgomery, April 22, 1942.

County Health Department, has been able to follow 107 cases of anterior poliomyelitis from their incipient stage to date. These cases have been seen by me or other members of our orthopedic staff (i.e., nurses and the physiotherapist, who are under the direction of Miss Mary Kinter, Chief Orthopedic Nurse and Physiotherapist of the Alabama Crippled Children's Service) at frequent intervals, most of them having been seen by me personally within a few days after their onset. We have made many muscle tests on all of the 107 cases since their initial infection to date. We will continue to observe these cases until everything possible has been done.

Through this very close follow-up we are able to present to you some of our results to date. I wish also to emphasize the different types of anterior poliomyelitis (Table 1) which were outlined by Dr. Albert B. Sabin, a member of a symposium on poliomyelitis which was presented before the American Medical Association in 1941.

TABLE 1
TYPES OF POLIOMYELITIS*

Type	Paralysis	Mortality	Incidence
1. Abortive	Absent	None	Said to be common in epidemics
2. Peripheral	Absent	None	Rarely seen
3. Meningeal	Absent	None	Rarely present alone
4. Spinal	Present	About 3%	Most common type (75-90%)
5. Bulbar	Present	High (75-100%)	Next most common type (10-25%)
6. Facial	Present	Low when sole involvement	Not frequent
7. Hemiplegia	Present	Low	Infrequent. Rarely seen save during large epidemics
8. Cortical	Absent	None	Rarely seen save during large epidemics

It is very important that we bear in mind these different types, because here, as we well know, is the basic damage, the end results of which are in direct proportion to the severity of the initial pathologic involvement in the spine or brain.

As regards age and race (Table 2), it is interesting to note that in proportion to the population there was very little variation.

TABLE 2
RACE AND SEX

Total cases observed in Walker County	107
White, total population 51,632	96
Male	51
Female	45
Colored, total population 7,813	11
Male	7
Female	4
Age Groups	
White, total	96
Under 3	59
3-10	26
10 and over	11
Colored, total	11
Under 3	7
3-10	3
10 and over	1

*Courtesy, Dr. Albert B. Sabin.

It will be interesting to know that practically two-thirds of all the cases observed in Walker County were under 5 years of age. This same proportion was found throughout the whole number of cases observed in the state in 1941. Several cases were seen where there were more than two individuals involved in the same family. We had one case of a young woman who became pregnant six months following her initial infection with poliomyelitis and we have every reason to feel that she will be delivered normally without any complications in about 15 months from the date of her initial infection.

The following table (Table 3) shows the anatomic involvement and the percentage of cleared cases and deaths. It is interesting to note that 56 per cent of the cases were cleared. However, in an epidemic a higher percentage of recovery is expected than in that group of cases which continues to have a residual paralysis.

TABLE 3
CLEARED CASES, ETC.

Involvement	No. of Cases	Per Cent	Percentage of Cases Cleared
Total paralysis	14	13.1	46.1
Upper extremities	10	9.3	80.0
Lower extremities	50	46.8	58.0
Arm and leg—same side	7	6.5	71.4
Arm and leg—opposite sides	5	4.7	40.0
One arm and both legs	9	8.4	33.3
Neck, back and abdominals	10	9.3	10.0
Face	1	0.9	0.0
One arm and face	1	0.9	0.0
Total number of cases	107		56
Deaths	3		2.8

In other words, the 40 per cent of uncleared cases will be slower recovering and the percentage of recovery will be less, because here again we will note that the residual paralysis is in direct proportion to the severity of the original infection or pathology.

The care of most of the cases seen in Walker County was under rather poor hygienic

and economic surroundings. It was considered best to not hospitalize the patients, feeling that the element of contagion should not be ignored. Moreover, the economic equation was also a big factor as far as hospitalization was concerned. In spite of such disadvantages, that is, hygienically and economically, we obtained probably as good results as if these children had been hospitalized, unless it would have been possible to have secured a special nurse for each case. Even then, I feel that the delayed recovery would not have been permanent, because eventually, in my opinion, if any case or cases have not entirely recovered to date as a result of the lack of individual nursing care, they will, in due course of time, be able to overcome their delayed recovery without permanent disability.

What were our procedures in the treatment of these cases as far as orthopedic management was concerned? Routinely it can be outlined as follows: As soon as the case was reported to our county health authorities by the private physician who first saw the patient, our orthopedic and county health field workers commenced their observation *immediately.* It is important that these cases be reported early because we know that the case responds better to early treatment and also the parents are always more cooperative when something is being done in the acute stage. The parents were taught the care of the child, which included demonstration of bath, direction of diet, and instructions of isolation technique, etc. The patient was placed on a Bradford frame and proper splints applied to the extremities if necessary, using in most instances the Toronto splint with much beneficial results. The parents were taught the method of applying hot packs and other forms of heat, dry or moist in the very early stage. They were also given instructions regarding the length of time of the applications.

Here we wish to emphasize the fact that we have used heat, moist and dry, for many years in the local treatment of infantile paralysis. Sister Kenny's statement that nothing but hot packs are all that are necessary and that no other braces or forms of support should be applied is not in our opinion entirely sufficient to bring about the best results in these cases. We feel that the application of hot packs, dry and moist heat and hot baths, etc., is a necessary part in the early treatment in anterior poliomyelitis, but it is certainly not the only procedure to be used, either in the acute or the chronic stage. We did not use plaster cast in any case in the acute or subacute stage.

Continuing further with the outline of treatment given the parents, they were instructed regarding the proper use of massage as soon as soreness disappeared, in the form of a very light stroking massage. As soon as the soreness disappeared the physiotherapist who had made frequent visits to the child during the early convalescence and continued to do so thereafter performed muscle examinations and exercises planned according to the strength of the muscles. The parents were taught to give the exercises. The child was frequently visited by the physiotherapist and her field workers and later through the advice of the orthopedist proper braces if necessary were applied to the extremities and back, followed by routine exercises of walking and other such like necessary procedures.

As previously stated those cases which did not entirely clear up during the early state were admitted to the orthopedic service of any one of our crippled children's hospitals under the continued supervision and direction of the orthopedist and his staff. We finally, then, enter into the treatment of the chronic stage which is to be continued with baths, massage and a more active effort by the patient to carry out normal function of his extremities and back. After three years or thereabouts following the initial infection, surgical procedures are carried out when residual paralysis is still present.

Admitting that the responsibility of the anterior poliomyelitis cases is at first a public health problem and next a pediatric one, you will have to grant that finally the physician who is left with the major responsibility of the poliomyelitis case is the orthopedist. The importance of early orthopedic observation, i.e., within the first 48 or 72 hours, can not be overemphasized.

We must not be over-zealous about the apparent cure of anterior poliomyelitis because frequently the parents are not so fully conscious of any residual paralysis as the orthopedist and his workers are. Frequently, the parents will say that the patient has fully recovered, whereas, through scientific examinations, the muscles will show definite weakness and if the patient continues

to over-exercise these muscles permanent disability frequently occurs. Many cases have developed back weakness which was not apparent at first. These cases demand close observation and proper support. Such cases are the ones which profit by the scientific care and not the over-enthusiastic popular transitory panaceal treatments which are so often imposed on the public and the profession.

We can not over-emphasize the importance of eternal vigilance in these cases, regardless of some of their apparent rapid recoveries. We must remember that medicine is a science which takes years of patience and time in finding out the cure for such diseases as anterior poliomyelitis and others. Something spectacular is not going to happen over night and there is more than one procedure, in fact several procedures, in the treatment and cure of anterior poliomyelitis cases: rest at the proper time, dry and moist heat at the proper time, support for the proper length of time, guarded active motions, or braces if necessary and later, in the chronic state, surgical procedures to bring about improved function. Peanut oil and hot fomentations are not the only true answers in the treatment of poliomyelitis any more than the application of the ice bag to the fevered brow of the typhoid patient is a cure for that patient and that oxygen is the only treatment and cure for all the varied types of pneumonia.

The health of the armed forces of America are our chief concern and will continue to have first place until victory crowns the efforts of the United Nations. We must not lose sight of the fact, however, that the civilian population is the very source of the military. It is imperative that we maintain as healthy a civilian population as possible. All of us realize more than ever before, that it is a matter of vital importance for us to prevent disease. The efficiency of our armed forces, of our industrial forces, of our agricultural forces, and of our civilian forces depends upon good health. We continue our efforts to that end, bearing in mind that the war will vitally affect all of us. There have necessarily been changes of our principles and practices in conducting public health programs and there will be others, as well as sacrifices of material things. The immediate health problems which must inevitably accompany an all-out war program are problems relating to mass population movements, congestion, and the speed-up in industry.—*From the* 1941 *Report of the State Health Officer.*

SPECIAL ARTICLE

PROCUREMENT OF PHYSICIANS FOR THE ARMED FORCES

(*Reprinted, J. A. M. A., June* 27, 1942)

Elsewhere in this issue appears a statement by Mr. Paul V. McNutt, chairman of the War Manpower Commission, under which the Procurement and Assignment Service for Physicians, Dentists and Veterinarians functions, relative to the urgent need for physicians for the armed forces at this time. Mr. McNutt recognizes the indispensable character of the physician for both military and civilian needs. He makes clear that eight states—New York, Illinois, California, Pennsylvania, Massachusetts, New Jersey, Michigan and Ohio—must supply most of the physicians needed for the armed forces at this time. Some of the states have already supplied so many physicians in proportion to their total medical population that recruitment in those states is to be discontinued now or in the near future.

The medical profession cannot be accused of failure to play its part in any way in relationship to the war effort. Every one who is participating in the recruitment of physicians recognizes that there have been what are now called innumerable "bottle necks" to be cleared away from time to time as the effort has progressed. More than one hundred and thirty thousand physicians have already returned the registration blanks sent out by the National Roster of Scientific and Technical Personnel. These replies have been coded, and punch cards have been made for them. Any physician who has failed to receive an enrolment form from the National Roster should write at once to the National Roster of Scientific and Technical Personnel, in care of War Manpower Commission, 916 G Street Northwest, Washington, D. C., requesting that an enrolment form be sent to him.

Shortly there will be sent to every physician who indicated that service in the United States Army Medical Department would be his first choice or his second choice a letter as follows:

WAR MANPOWER COMMISSION

Procurement and Assignment Service
Washington

Procurement and Assignment Service for Physicians, Dentists and Veterinarians

Dear Doctor:

You have indicated your willingness to serve the Nation in this great emergency. The Procurement and Assignment Service of the War Manpower Commission now calls on you to enter the Service. Please apply at once for a commission. You have been selected from among the available physicians in your community by a process that is believed to be fair and impartial.

Complete and mail the enclosed post cards immediately. The Office of the Surgeon General or his representative will provide the necessary application forms and authorize the time and the place for your physical examination.

Do not take any definite action regarding your practice until you receive specific instructions from the War Department. Each physician who is commissioned is routinely allowed fourteen days to wind up his affairs after receipt of orders from the War Department.

The rapidity of recruitment now in effect makes this communication necessary and requires your full cooperation. Please do not delay.

Sincerely yours,
Frank H. Lahey, M. D.,
Chairman, Directing Board
Procurement and Assignment Service

Enclosures
No. 92 6/22/42

With this letter will be enclosed two postal cards, which will secure prompt action in relationship to the receipt of application forms and proper notification of the action taken in the responsible agencies in Washington.

The needs of the armed forces for physicians are immediate; unquestionably those needs will be met. Physicians who are under 37 years of age and who have been classified by the Selective Service are susceptible to restudy of their situation and reclassification as these needs become more and more urgent. The medical schools, hospitals, public health departments, industrial concerns, in fact every agency utilizing the services of physicians, must cooperate by restudying the men classified as essential, so that only those who are actually essential in the most restricted sense of that word will be retained. All others must be made available as needed for the service of the nation in the armed forces. The Procurement and Assignment Service for Physicians, Dentists and Veterinarians was established to aid in the proper assignment of physicians in times like these to the tasks for which they are best fitted. Already this agency has been of immense value in the principles that have been adopted relative to the maintenance of medical education, hospital service and civilian health, as well as the study and evaluation of men for the Army and Navy medical departments. As the needs become more acute and the number of men available less, their task assumes increasing importance. The War Manpower Commission is now the agency under which the Procurement and Assignment Service functions. Through the activities of various subcommittees such problems as maintenance of essential staff members for hospitals, the determination of adequate medical service for the civilian population needs, of adequate personnel for urban, county, state and national health departments and the needs of industry are being given special consideration. The medical profession, as Mr. McNutt has repeatedly emphasized, has in these activities shown the way to scientific study and allocation of manpower in this emergency.

A Call to Colors—The doctor who remains at home and cares for the sick people there will suffer the real strain of this war. It is necessary to see that the armed forces are furnished with the necessary complement of doctors, whether or not the other responsibilities of the government in such particulars are met fully. That is so because the armed forces will be, presumably and at any time, in a position where they cannot supplement their supply of doctors. They must be able to take care of something like the anticipated peak load at any time. There has been some criticism of the demand of the Army for six doctors per 1,000 soldiers. That is not a fair criticism, and for the reason just stated. At that, quite possibly the armed forces will not at any time be supplied with medical service one hundred per cent. We must remember, in this connection, that it is the Army and Navy which will be primarily concerned in winning the war, and if the war is not won, the lot of the people and their need for medical service will be deplorable, indeed, and that is not to say that the role to be played by the people at home is not important. Indeed, the contrary is true. The people must, through extra endeavor and sacrifice, support the Army in the field, something the Army cannot do for itself.—*Editorial, Texas State J. Med., June* '42.

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THE CONSTITUTION OF THE ASSOCIATION

The Constitution and ordinances of the Association, amended to date, appear in this Journal. Heretofore these have constituted the popularly known Red Book, last issued in 1928.

At the 1939 session of the Association the Vice-President of the Northwestern Division recommended that a new edition of the Red Book be printed, and the Association authorized the State Board of Censors to proceed with the printing when the time seemed opportune. For reasons that need not be dwelt upon here such opportunity has not presented, and for causes that are obvious a further printing of the Red Book must be postponed indefinitely.

At the recent meeting of the Association another recommendation was made bearing on this subject, and the State Board of Censors offered as an alternative the suggestion that the amended Constitution and ordinances be printed in the columns of the Journal, and the suggestion is being carried into effect in this number. It is believed that through this medium the ends will be met until such time as a Red Book can be published.

In order that the amended Constitution and ordinances may receive as wide distribution as seems indicated they will be reprinted in the annual volume of the transactions of the 1942 session. Members are urged to preserve their copies when received.

FALLACIES IN THE TREATMENT OF HEART DISEASE

"Cardiac treatment, like all other treatment of disease, has had its ups and downs, its days of polypharmacy and its days of therapeutic nihilism, its enthusiasts and its skeptics. Actually as in nearly everything else in human endeavor the best path is the conservative, in the middle of the road. We should not decry the existence of the extremists, for without their enthusiasm we might make very little advance, but we must use great judgment and cool and critical appraisal of new methods of therapy and of new drugs before we adopt them ourselves routinely in these days of high pressure salesmanship of everything under the sun."

The above are the opening sentences of the discussion of this ever-present and frequently difficult subject by White.[1] The Boston observer goes on to tell us that "there are two important bits of advice I would give at once that apply not only to any kind of heart trouble but to many medical and indeed even surgical diseases. They are as follows: First, when things are not going well in the face of much drug or other therapy, try a rest day or two or three without any medicines at all (except in the case of essential rations like insulin)—every now and then the result is little short of miraculous in arousing a spark of life, of appetite, or of morale which had been dampened by the very drugs which perhaps at first or on occasion may actually be life saving. Life saving measures may prove too heroic for every day life and may eventually result in severe depression or worse. The other bit of advice is a corollary. Do not use too many vigorous agents at one time. Each drug or measure may be very valuable and several together may prove vitally helpful, but every now and then in combination too rapidly administered they may do harm. I have seen patients in poor health, but not really emergency cases, brought from their homes to a hospital where they succumbed in a few

1. White, Paul D.: Fallacies in the Treatment of Heart Disease, New Orleans M. & S. J. 93: 565 (May) 1941.



HARVEY B. SEARCY
President of the Association
1942-1943

days to the vigorous administration of drugs or measures which individually or in moderate dosage are highly effective and desirable but which in too concentrated combination or too high dosage upset the apple cart. Again it is well to follow the middle of the road, even in emergency treatment."

White goes on to discuss the different symptoms which are so often incorrectly ascribed to heart disease, only some of which can be briefly mentioned here. "There are all kinds of causes of palpitation, most of which are not cardiac in origin; that is, heart disease itself is not the cause of palpitation in the large majority of cases. Therefore, try first to find out the cause of the palpitation—it may be easily discovered and eliminated; for example, fatigue, nervous strain, overeating, coffee, tobacco, alcohol, thyrotoxicosis. Do not give drugs right away, even if you cannot find the cause."

White warns us not to give digitalis simply because a person is short of breath. And he holds that "precordial pain or heartache is in the majority of cases not due to heart disease. It needs careful appraisal as to cause, but in most cases it is relatively unimportant and to be treated in part at least by reassurance. Do not put people with heartache to bed or give them morphine unless you are very sure they need it. A nervous woman of 35 or 40 is very unlikely to be suffering from coronary thrombosis."

Of digitalis itself the eminent Boston clinician says: "It is an invaluable drug but it is over used at the present day. Twenty years ago, when I began my private practice, I could still frequently make 'ten strikes' by putting patients on digitalis, now that rarely happens. I still sometimes make ten-strikes, however, by doing the reverse, namely, taking patients off digitalis. Not only are at least twice as many patients receiving digitalis as need it, but twice as much as necessary is given to many of those who do need it. This is partly the result of the uncritical following of the old idea of rapid and maximal digitalization, but also due to the setup in the strength of many of the commercial preparations on the market some 30 to 50 per cent in the past few years. . . A few doctors have reduced the dosages of foxglove they have been prescribing but most have not, being more or less unaware of the rather insidious change that has taken place. Hence one of the most common experiences I have lately had is to encounter cases, even in the best hospitals, of moderately severe digitalis intoxication."

White's excellent paper is both stimulating and instructive. Practitioners will do well to heed the principles he has outlined and, above all, to avoid the overtreatment of heart disease which is still all-too-prevalent.

The Procurement of Physicians—. . . We need more than twenty thousand additional physicians by the end of this year. But eight states—New York, Illinois, California, Pennsylvania, Massachusetts, New Jersey, Michigan and Ohio—should account for nearly sixteen thousand of that shortage.

By contrast, sixteen states have fewer than a hundred physicians to go to reach the total number they should supply. In order not to deplete unduly available medical service in those areas, we are asking that the Medical Officers Recruiting Boards be withdrawn and that further enlistments from those areas be then discouraged except in the case of the men under 37 in the urban areas. Those states are Alabama, Arizona, Delaware, Idaho, Louisiana, Mississippi, Montana, Nevada, New Mexico, North Dakota, South Carolina, South Dakota, Utah, Vermont, Wyoming and Virginia.

The acute problem for the next few months for those states is an equitable distribution of medical service within their borders. This will avoid the necessity for any consideration of plans to allocate doctors from other states to meet civilian needs.

More than one hundred and thirty thousand physicians have returned their registration forms to the Roster for Scientific and Technical Personnel. Those forms are now being processed. When that work is complete we shall be able to give the profession a more comprehensive report on the relation of available medical service to wartime needs.

The seriousness of the deficit in the number of physicians available for armed forces should not be under-estimated. The need must be met. It will be met by one method or another. Neither must we under-estimate the serious drain this puts on available medical services in civilian communities. It will mean long hours and hard work—sacrifices which will multiply the deep debt that every community owes to its physicians.

It cannot be met simply by multiplying the hours of the physicians who are left. There will be a real need to exercise every possible means for minimizing unnecessary medical services in order that the real needs may be met.

It is my belief that the lag in recruitment has been due chiefly to the fact that the individual physician has not realized the genuine urgency of the need. Measures must be taken which will bring those home to every individual. This means that there will have to be some education of the general public. Preventable illness must be reduced to a minimum.—*McNutt, J. A. M. A., June 27, '42.*

CONSTITUTION OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

The Association was first organized in 1847; *revived in* 1868, *after an interregnum during the War between the States; reorganized and a new constitution adopted in* 1873; *the present constitution adopted in* 1908.

Article I.—Title and Seal

Section 1.—The organization created by the adoption of this constitution shall be entitled, "The Medical Association of the State of Alabama."

Sec. 2.—The seal of this Association shall have on the obverse a winged globe on a shield, with the motto, *Nos etiam speravimus meliora;* and on the reverse, the arms of the State of Alabama, with the inscription, "*The Medical Association of the State of Alabama,* 1873."

It shall be stamped on all diplomas or certificates of qualification granted under the authority of the Association, and also on all other official documents the importance of which so warrants.

Article II.—Objects

The objects of this Association shall be:

(1.) To organize the medical profession of the state in accordance with principles and plans herein embodied;

(2.) To secure careful and reliable accounts of the endemic and epidemic diseases of the state;

(3.) To encourage the study of medical botany, medical topography, and medical climatology of the state;

(4.) To promote the establishment of a high standard of professional and moral education for medical men, for the purpose of protecting the people of the state against the evils of ignorance and dishonesty;

(5.) To endeavor to secure the enactment of wise and just laws for ascertaining by examination the qualifications of all persons who propose to offer their services to the people of any part of the state for the purpose of treating diseases of human beings;

(6.) To foster fraternal relations among the physicians of the state, and thus develop a spirit of loyalty to pure and exalted principles of professional ethics;

(7.) To combine the influence of the medical men of the state for the purpose of protecting their legitimate rights and of promoting the sanitary welfare of the people.

Article III.—Membership

Section 1.—The Association shall be composed of four classes of persons, namely,

(1.) Members.
(2.) Delegates.
(3.) Counsellors.
(4.) Correspondents.

Article IV.—Members

Section 1.—All members of county medical societies holding charters from the Association shall be, *ipso facto,* members of the Association.

Sec. 2.—When in attendance on a meeting of the Association members shall register as such; shall be entitled to seats on the floor of the Association; shall have the right to participate in all scientific work of the Association, including the privilege of presenting papers, and of engaging in discussions on medical subjects.

Sec. 3.—Members shall not be entitled to vote, nor shall they be eligible for office except as is provided in Section 4 of this Article.

Sec. 4.—All members who have been members in good standing of a county medical society in Alabama for the five consecutive years immediately preceding any election to fill vacancies in the several offices of the Association shall be eligible to election to the office of president and vice-president. (As amended, 1922.)

Article V.—Delegates

Section 1.—Each county society in affiliation with the Association shall be represented at all sessions thereof by such a number of delegates as corresponds with the number of representatives in the lower house of the State Legislature to which each county is entitled, provided that no county society shall be entitled to less than two delegates. (As amended, 1915.)

Sec. 2.—When in attendance upon a session of the Association delegates shall, after having presented their credentials, register as such.

Should a delegate not register at a meeting of the Association, or should such delegate permanently absent himself therefrom, his place may be supplied by an alternate, provided that the latter presents to the secretary of the Association credentials showing that he has been duly elected or appointed as an alternate.

Sec. 3.—Delegates shall be entitled to vote, and shall be eligible for such offices as are provided for in Section 4 of Article IV.

Article VI.—Counsellors

Section 1.—Counsellors shall consist of such members of county medical societies in affiliation with the Association as from time to time may be elected to the position of counsellor. (As amended, 1918.)

Sec. 2.—The counsellors, considered collectively, shall be denominated the College of Counsellors, and shall be graded as follows:

(1.) Counsellors-elect.
(2.) Active Counsellors.
(3.) Life Counsellors.

Sec. 3.—Counsellors-elect shall consist of those members, or delegates, not theretofore having been counsellors, who have been elected to the position of counsellor—they occupying the grade of counsellors-elect until the end of the annual session of the Association at which they are elected and until they have qualified as active counsellors as provided in the next succeeding section, and forfeiting their position as counsellors unless prior to the beginning of the next succeeding annual session they qualify as active counsellors as

provided in the next succeeding section. The status of a counsellor-elect so forfeiting his position shall be the same as if he had never been elected.

Sec. 4.—Active counsellors shall consist of those counsellors-elect who have qualified by notifying the secretary of their acceptance of the position of counsellor and signing the counsellor's pledge, and paying dues, and upon a revision of the roll of counsellors by the Association have been placed upon the roll of counsellors as active counsellors; and of those who by reelection have been kept on or returned to said roll as active counsellors. When a counsellor, or one who has once been a counsellor, is elected again he shall be entered upon the roll of counsellors without qualifying again.

Sec. 5.—Life counsellors shall consist of those who were life counsellors at the time the grade of active counsellor was established and of those who, having served as active counsellors for twenty years, are transferred, upon a revision of the roll of counsellors by the Association, to the grade of life counsellor. They shall hold their positions for life, except as in this constitution otherwise provided. The word "year" when used in this Article means the period from the end of one annual session of the Association to the end of the next annual session. In determining when an active counsellor shall become a life counsellor, his first term shall count as seven years, and as beginning at the end of the annual session at which he was first elected, whether he qualified before or after the date of the expiration of said annual session.

Sec. 6.—In consideration of having served the Association for twenty years, and of having paid dues for that length of time, life counsellors, although entitled to the same rights in, and owing the same allegiance to, the Association as other counsellors, shall be released from the payment of annual dues, and also from the obligation of compulsory attendance upon meetings of the Association, imposed upon other counsellors.

Sec. 7.—Counsellors shall be elected at regular annual sessions of the Association. The total number of active counsellors and counsellors-elect at any one time shall not exceed one hundred. The first term of a counsellor as an active counsellor shall begin at the end of the regular annual session of the association at which he is elected but he shall not exercise the prerogatives of an active counsellor until he has qualified as provided in Section 4 of this Article. His subsequent term or terms, if he should be elected to succeed himself, shall begin at the expiration of the preceding term. The terms of an active counsellor shall be seven years for the first term, seven years for the second term, if any, and six years for the third term, if any. But when an active counsellor who has ceased to be an active counsellor is reelected an active counsellor he shall become an active counsellor at the end of the annual session at which he is reelected for a full length term if he served the whole of his previous term and, if he served only a portion of his previous term, for such a number of years taken in connection with the number of whole years served in his previous term as will make a term of seven years if it is his first term, seven years if it is his second term, or six years if it is his third term; and his whole years of service as an active counsellor under previous election or elections shall be counted in determining when he shall become a life counsellor.

Sec. 8.—Nominations for the position of counsellor must be made as follows:

On the second day of each annual session, before the hour of adjournment of the morning session arrives, the secretary shall report to the Association, by congressional districts, a list of vacancies known at that time to exist in the College of Counsellors and of vacancies to occur at the end of that annual session. The delegates and counsellors in attendance from the respective congressional districts in which vacancies have been announced shall assemble at the respective places and times previously agreed upon by the president and the secretary of the Association, and announced at the time the secretary makes said report, for the purpose of making nominations for such vacancies. Such of said delegates and counsellors as so assemble shall, *ipso facto*, be the nominating committee for their respective congressional districts and shall by a majority vote of those present in said respective meetings nominate from among the active counsellors whose terms will expire at the end of that annual session and the members of the Association who are not counsellors, such a number of eligible members from among those residing in their respective congressional districts as correspond with the number of existing and prospective vacancies announced therein by the secretary; and such nominations shall be reported forthwith to the Association. In the revision of the roll of counsellors should additional vacancies be announced nominations to fill such vacancies shall be made as nearly as practicable in the same way as is provided for above.

Sec. 9.—The qualifications for a counsellor shall be:

Liberal culture, devotion to scientific and practical medicine, and fidelity to the system of organization embodied in this constitution.

To be eligible for nomination as a counsellor a person must have been a member of the Association for five consecutive years, unless he be a member of a county society whose charter is less than five years old.

Sec. 10.—The nominees must be so distributed among the congressional districts of the state as to make the counsellors in the several districts bear approximately a uniform proportion to the aggregate number of members of county medical societies in the respective districts, due and proper regard being had to the qualifications for the position of a counsellor, prescribed in the preceding section.

Sec. 11.—Any active counsellor, except one who has served the Association for ten or more consecutive years, moving out of the congressional district from which he was elected shall there-

by *ipso facto* forfeit his position as a counsellor.* (As amended, 1918.)

Sec. 12.—No obligation shall rest upon counsellors or delegates to vote for the nominees proposed by the committees, they being at liberty to vote for other eligible persons from the same congressional districts as the respective nominees. (As amended, 1918.)

Duties of Counsellors

Sec. 13.—The duties of counsellors shall be:

(1.) To render unqualified and unstinted allegiance to the Association and to stand ready at all times to support its declared policies and to aid in the achievement of its objects.

(2.) To discharge all duties constitutionally imposed upon them by the president, or by the Association.

(3.) To attend at least one annual session of the Association in three, and when in attendance to register as counsellors.

Failure on the part of a counsellor, other than a life counsellor, to comply with this requirement shall, *ipso facto,* work forfeiture of his counsellorship.

(4.) To attend the meetings of their county societies and to uphold the authority and promote the efficiency and power thereof.

(5.) To comply promptly and regularly with the law requiring reports of births, deaths, and infectious diseases, and to uphold the authority of their county societies, respectively, in the enforcement of said law.

Failure of a counsellor to comply with the duties imposed upon him in the preceding subsection shall subject him to censure or to removal from the College of Counsellors, according to the gravity of the offense.

(6.) Counsellors shall not serve as delegates of their respective county societies at meetings of the Association.

Rights of Counsellors

Sec. 14.—Counsellors shall have the following rights:

(1.) To vote upon all questions brought before the Association that are disposed of by vote.

(2.) They shall be eligible for the offices of the Association.

(3.) They shall, except as in this constitution otherwise provided, hold their positions for the terms herein prescribed unless removed by death, resignation or impeachment or for neglect of duty. (As amended, 1918.)

ARTICLE VII.—CORRESPONDENTS

Section 1.—Distinguished members of the medical profession residing outside of the state, and counsellors of the Association who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as correspondents.

Sec. 2.—Correspondents may upon recommendation of the Board of Censors be elected at any annual meeting of the Association.

The election shall be by ballot, and two-thirds of all votes cast shall be necessary for election.

Sec. 3.—Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper.

Sec. 4.—They shall not be liable for dues of any kind, and shall be furnished with a complimentary copy of the annual volume of transactions.

ARTICLE VIII.—OFFICERS
(As amended, 1925.)

Section 1.—The officers of the Association shall be:

(1.) One president.
(2.) Four vice-presidents.
(3.) One secretary.
(4.) One treasurer.
(5.) Ten censors.

Sec. 2.—The president shall be elected for one year; the vice-presidents, for four years, in such way as that one vacancy only will occur annually by expiration of official term; the secretary, for five years; the treasurer, for five years; the censors, for five years, in such way that two vacancies will occur annually by expiration of official term.

Sec. 3.—Should vacancies in the Board of Censors occur at the time of an annual meeting of the Association from any cause other than expiration of term of office such additional censors shall be elected as may be necessary to fill the unexpired term or terms. Should vacancies in the Board of Censors occur between two annual sessions of the Association, it shall be the duty of the president to fill the vacancy or vacancies by appointment, the appointees to serve until the next annual meeting of the Association, at which time the Association shall fill the unexpired term, or terms, by election.

Sec. 4.—Officers shall be elected by ballot and without nomination. A majority of all votes cast shall be necessary for election. Every officer shall continue in office until his successor is duly elected and installed.

Sec. 5.—An officer may be technically installed *in absentia.*

ARTICLE IX.—THE PRESIDENT

Section 1.—The president shall preside at all sessions of the Association; shall preserve order; shall in case of a tie upon a rising vote give the deciding vote; and shall perform such other duties as parliamentary usage imposes upon presiding officers.

Sec. 2.—He shall at the next annual session succeeding that of his election submit to the Association a message devoted to a discussion of the interests, organization, objects, or business of the Association.

Sec. 3.—He shall appoint members and counsellors of the Association to prepare and read at the session over which he is to preside papers upon

*The Association at its 1936 session placed the following construction on Section 11 of Article VI: The verbiage "moving out of the congressional district from which he was elected" shall be construed to mean "the shifting of the base of professional activities for the purpose of earning a livelihood, regardless of legal residence for voting purposes, and regardless also of the payment of dues in a county medical society not located in the district in which he is now residing."

such medical, surgical, sanitary, or allied subjects as may in his judgment be profitably presented to, and discussed by, the Association.

He may also, within restricted limits, extend invitations to prominent physicians in other states to present papers upon similar subjects.

Sec. 4.—He shall appoint the number of delegates to the American Medical Association to which this Association is entitled and may appoint delegates to other scientific bodies in which after consultation with the Board of Censors he may deem it expedient to have the Association represented.

Sec. 5.—He shall in the interval between the annual sessions direct and control the general policy and business of the Association, but always in accordance with the constitution, precedents, and usages of the Association, and also with due regard to the opinion and advice of the Board of Censors, and of the State Health Officer.

Article X—The Vice-Presidents

Section 1.—The vice-presidents shall, according to the length of time they have been in office, be denominated senior vice-president and junior vice-presidents, respectively. (As amended, 1925.)

Sec. 2.—The counties of the state shall be geographically divided by a line running north and south, east and west, into four approximately equal divisions. (As amended, 1925.)

Over each of the four divisions, a vice-president, chosen from the division in which he resides, shall have jurisdiction.

Sec. 3.—The duties of the vice-presidents shall be:

(1.) To inform themselves by correspondence, by inquiry, and, if practicable, by personal visits, as to the efficiency of organization of the county societies under their respective jurisdictions, and as to the character of work being done by said societies, especially, the frequency with which meetings are held, whether or not at meetings papers upon medical subjects are read and discussed and cases reported; and also as to the promptness and thoroughness with which the board of censors, the county board of health, and the county health officers, discharge their duties.

(2.) Whenever a county society is ascertained to be apathetic and inattentive to its constitutional obligations, it shall be the duty of the vice-president having jurisdiction to wisely and judiciously use his influence to stimulate such society into vigorous and efficient action.

(3.) The vice-presidents shall make monthly reports to the president as to the general conditions of the county societies in their respective divisions, and shall give full information in regard to any society whose condition seems to require special attention.

(4.) The vice-presidents shall submit to the Association at every annual session thereof reports giving full information as to the condition of the county societies under their respective jurisdictions.

Sec. 4.—In case of the absence, or death, of the president, the vice-presidents shall, in the order of seniority, discharge all of the duties belonging to the presidential office.

In the event of the absence of the president and of the four vice-presidents from a regular or called meeting, the Association shall elect a president *pro tempore,* and may also elect a vice-president *pro tempore.*

Sec. 5.—Should vacancies in the office of vice-president occur between two annual sessions of the Association, it shall be the duty of the president to fill the vacancy or vacancies by appointment, the appointee to serve until the next annual meeting of the Association, at which time the Association shall fill the unexpired term or terms by election. (Adopted, 1929.)

Article XI.—The Secretary

Section 1.—The secretary shall have charge of all books, papers, and records of the Association, except such as belong to the offices of the treasurer and the Board of Censors.

Sec. 2.—He shall record the minutes of the sessions of the Association.

Sec. 3.—He shall, under the direction of the president, conduct the correspondence of the Association, except such as pertains to the offices of the treasurer and Board of Censors.

Sec. 4.—He shall, in connection with the Board of Censors, have custody of the seal of the Association, and shall, under the direction of the president, attach it to, or impress it upon, such official documents as require it.

Sec. 5.—He shall be a member of the publishing committee, and shall after each annual session of the Association use due diligence in having the volume of transactions published and distributed.

Sec. 6.—He shall examine the credentials of all delegates who present themselves at meetings of the Association for registration as representatives of county societies, and shall furnish a list of such delegates for publication in the annual volume of transactions.

He shall also examine the credentials of such alternate delegates as propose to supply the places of absent delegates.

Sec. 7.—He shall keep the roll of counsellors, and shall cause the names of those counsellors who attend the sessions of the Association to be published in the annual volume of transactions.

Sec. 8.—He shall report annually to the association the names of those counsellors who by compliance with the provisions of this constitution have retained their counsellorships; also, the names of those counsellors who are entitled to promotion, and the names of those who have forfeited their counsellorships, together with the cause of forfeiture.

Sec. 9.—The salary of the secretary shall be fixed by ordinance of the Association.

Sec. 10.—In case of the absence of the secretary from any regular or called session of the Association, and of a counsellor duly accredited by the secretary to represent him, the president shall appoint a secretary *pro tempore,* and such secretary shall be entitled to such compensation as the Association may order, the amount thereof to be deducted from the annual salary of the secretary.

Article XII.—The Treasurer

Section 1.—The treasurer shall have custody of all moneys, bonds, and securities belonging to the

Association, except such as may be otherwise assigned by the Association.

The authority herein conferred upon the treasurer shall not include the appropriation annually made to the Association as a State Board of Health, the custody of which appropriation shall, under the direction of the Association, be vested in the State Health Officer.

Sec. 2.—The treasurer shall collect the annual dues of delegates and counsellors, and receipt for the same. He shall also receive and receipt for the dues of members as transmitted by their respective county societies.

Sec. 3.—He shall within thirty days after the close of each annual session notify all delinquent counsellors, delegates, and county societies of the amount of their annual dues, and shall urge payment of the same.

Sec. 4.—He shall at each annual session make a report of the financial condition of the Association, stating in full all moneys received during the year, from whom, and on what account; the several amounts paid out during the year, to whom and on what account; any amounts that may be due by the Association, to whom, and on what account; and the several amounts that may be due the Association, by whom, and on what account.

Sec. 5.—He shall also include in his annual report the names of any counsellors who have failed to pay their annual dues.

Sec. 6.—He shall within two months after the adjournment of the annual session furnish the secretary of the Association with the names of all counsellors, delegates, and members who have paid their annual dues, the list to serve as a guide to the latter officer in the distribution of the annual volume of transactions.

Sec. 7.—He shall place all funds and securities of the Association in such banks or depositories as may, from time to time, be designated by the Board of Censors, and said funds and securities shall not be transferred except upon the authorization of the Board. The treasurer is authorized to pay by check current accounts of the Association when same are supported by the written approval of the secretary of the Association. (As amended, 1937.)

Sec. 8.—He shall give bond for the faithful performance of his duty, said bond to be secured by an indemnity company selected, or approved, by the Board of Censors.

The amount of the bond shall be fixed by the Board of Censors at about double the sum of money belonging to the Association likely to be in the hands of the treasurer at any one time.

All expenses incurred in furnishing the bond shall be defrayed by the Association.

Sec. 9.—The annual salary of the treasurer shall be fixed by ordinance of the Association.

Sec. 10.—In case of the absence of the treasurer from any regular session of the Association, and of a counsellor of the Association duly accredited by the treasurer to represent him, the president shall appoint a treasurer, *pro tempore*, and such treasurer shall be entitled to such compensation as the Association may order, the amount thereof to be deducted from the annual salary of the treasurer.

Article XIII.—The Board of Censors

Section 1.—The ten censors, the election of whom is provided for in Article VIII, shall, when organized, constitute a board, which board shall be authorized to act in three capacities, to-wit:

(1.) As a State Board of Censors.
(2.) As a State Board of Medical Examiners.
(3.) As a State Committee of Public Health.

Sec. 2.—Organization shall consist in the ten censors, or a majority thereof, meeting, and in the election of one of their number as chairman, the term of office of whom shall continue from the time of his election as chairman to the end of his term as censor.

Sec. 3.—A vacancy in the chairmanship of the board from cause other than expiration of term may be temporarily filled at any meeting of the board at which a quorum is present, and shall be permanently filled upon the first meeting of the board at which not less than a majority of the members are present.

Sec. 4.—At any meeting of the board subsequent to that of organization a quorum shall consist of not less than three members.

Sec. 5.—The official title of the chairman of the board shall correspond with the capacity in which the board is acting, that is, shall be Chairman of the State Board of Censors, Chairman of the State Board of Medical Examiners, or Chairman of the State Committee of Public Health, as the case may be.

Sec. 6.—The board shall elect from the College of Counsellors, by not less than a majority vote of its members, an executive officer to be known as the State Health Officer, and shall submit the name of the officer so elected to the Association (the State Board of Health), in annual session, for confirmation.

Sec. 7.—The board shall also have the right upon a two-thirds vote of its members to recommend to the Association (the State Board of Health), when in annual session, the removal of the State Health Officer from office, and shall assign its reasons for such recommendation.

Sec. 8.—A special session of the board may be called at any time by the president of the Association, by the chairman of the board, or on written request of three members of the board, addressed to the chairman thereof.

State Board of Censors
Jurisdiction

Sec. 9.—When acting as a State Board of Censors to it shall be referred without discussion:

(1.) All motions, resolutions, or inquiries, of whatever nature, affecting the organization, policy, or welfare of the Association, or of any one, or more of the county societies in affiliation therewith;

(2.) All proposed amendments to the constitution, ordinances, or by-laws of the Association;

(3.) The message of the president delivered at the annual session, and any recommendations he may submit to the Association at any called session;

(4.) All reports and recommendations of the vice-presidents submitted to the Association at any annual, or called session;

(5.) All reports and recommendations of the secretary, the treasurer, and the publishing committee, submitted to the Association at any regular, or called session;

(6.) All questions involving the principles of ethics to which the Association has declared its allegiance;

(7.) All charges of malfeasance preferred against any officer of the Association;

(8.) All charges preferred against any officer, counsellor, delegate or member of the Association for improper, ungentlemanly, or unprofessional conduct committed during attendance upon a meeting of the Association, either at the place of meeting, or in the town or city in which the meeting is being held;

(9.) All appeals from the decision or verdict of any county society in affiliation with the Association;

(10.) Any other question germane to those enumerated above may, upon a majority vote, either with or without discussion, be referred to the Board of Censors.

Duties

Sec. 10.—When any matter or question embraced under any one of the heads above stated has been referred to the Board of Censors, it shall be the duty of the board to give to the matter or question so referred mature consideration, and within as brief a period as is compatible with arriving at full and correct information.

Sec. 11.—When charges of malfeasance against an officer, or ungentlemanly, or unprofessional conduct against an officer, counsellor, delegate, or member, committed during attendance upon a session of the Association, or in the city or town in which a meeting of the Association is being held, have been referred to the Board of Censors, or when an appeal from the ruling or verdict of a county society has been so referred, it shall be the duty of the board to notify in writing all parties concerned of the time and place at which investigation will be made, provided that, should justice to either party concerned so demand, the investigation may be adjourned from time to time.

Sec. 12.—In order to promote thoroughness of investigation, the board shall at the request of either party concerned, or on its own motion, summon in writing any member, or members of the Association as witnesses, and it shall be deemed the duty of such member, or members, to respond to such summons, if reasonably possible so to do, and to testify to the best of his or their knowledge and belief.

Sec. 13.—The board shall at the solicitation of either party concerned, or on its own motion, have the right to request persons other than members of the Association to appear as witnesses, and may, if the ends of justice clearly so demand, use funds of the Association, within reasonable limits, for defraying any necessary expenses to which persons so summoned may be subjected.

Sec. 14.—During such investigation all parties immediately and directly concerned in the question at issue shall have the right to be present in person, or to be represented by counsel, or both; shall also have the right to question and cross-question witnesses, and to present, either in person or by counsel, such explanations and arguments, and of such length, as the board may deem proper.

Sec. 15.—For such investigation the board may in its judgment employ at the expense of the Association a stenographer to make a record of the proceedings, which record shall at the close of the investigation be certified to as correct by the chairman of the board.

Sec. 16.—The board shall also have the right to maintain order and proper decorum during such investigation, and may, if circumstances so demand, adopt such legal measures as it deems necessary to enforce its orders.

Sec. 17.—Whenever differences or disputes among the members of the Association arise that are likely to be referred to the Board of Censors for investigation, or whenever charges against an officer, delegate, or member, or an appeal from the ruling or verdict of a county society, shall be so referred, it shall be the duty of the members of the board to abstain from discussing the question at issue, except with other members of the board; and also to abstain from announcing their individual views upon the question until such time as the board shall officially render its report of the investigation to the Association; in a word, the members of the board shall regard themselves as occupying positions corresponding with those of judicial officers, and shall deport themselves accordingly.

Sec. 18.—Whenever charges involving the official conduct of an officer, or the moral, gentlemanly, or professional conduct of an officer, counsellor, delegate, or member, have been referred to the Board of Censors, or whenever an appeal from a county society involving similar charges has been so referred, it shall be the duty of any member of the board whose personal, or professional relations to either party concerned are such as to obviously render it indelicate or improper for him to sit in the adjudication of the case to withdraw from the investigation; or should such member not withdraw voluntarily, it shall be the duty of the board to exclude him from all participation in the investigation. Any vacancy in the board thus caused shall be filled by the Association, if in session; if not in session, then, by the board itself.

Sec. 19.—The Board of Censors shall at the annual meeting of the Association examine the accounts of the treasurer and shall report to the Association the condition in which these accounts are found.

The board shall also see that the treasurer's bond, as provided for in Article XII of this constitution, has been duly executed and filed.

Sec. 20.—When any matter or question has been referred to the Board of Censors, the board shall, as promptly as circumstances will permit, proceed to investigate the matter or question so referred, and having completed the investigation shall submit to the Association a full report thereof, accompanied by such recommendations as to the proper disposition of the matter or question as to it may seem wisest and best.

Should such report and recommendations be found inadequate or incomplete, the Association may refer the matter or question back to the board for such further investigation as it may direct.

Sec. 21.—Whenever in the adjudication of any matter or question that has been referred to, or that may arise within, the Board of Censors a tie vote on the part of the board shall result, it shall be the right of the members of the board entertaining opposing views to submit to the Association separate reports, setting forth their respective views and recommendations, for such action as the Association may see fit to take thereon.

Sec. 22.—The Board of Censors shall have the right to submit to the Association at any regular, or called session, such recommendations bearing upon the work, interests, or policy of the Association, or of the county societies, as it may deem proper.

Sec. 23.—All rulings, decisions, recommendations, reports, or official acts, of whatever nature, rendered or performed by the Board of Censors, either during a session of the Association, or during the interval between two sessions, shall be submitted to the Association in annual, or special reports, and shall be open for discussion, and may be approved, or amended in such way as the Association may determine.

Sec. 24.—The Board of Censors shall, concurrently with the annual sessions of the Association, hold such meetings as the business referred to, or originating within, the board may require; and at such time as may be prescribed by ordinance shall submit to the Association an annual report, containing an account of the work done by it in the three spheres in which it is authorized to act, to which report supplementary papers of importance to the Association may be added.

Sec. 25.—Any errors in the minutes of the preceding annual meeting of the Association, as published in the volume of transactions of the meeting, shall be pointed out in the annual report of the board and submitted to the Association for correction.

Sec. 26.—Should business of an urgent character so require, meetings of the board may be called by the chairman thereof during the interval of two annual sessions.

Sec. 27.—The board shall during the intervals between the annual sessions of the Association be authorized to advise with the president in all matters pertaining to the welfare of the Association, or that of the county societies in affiliation therewith.

State Board of Medical Examiners

Sec. 28.—When acting as a State Board of Medical Examiners the board shall, in accordance with the law of the state regulating the qualifications of practitioners of medicine, and also in accordance with rules and regulations prescribed by the Association, examine all persons who may be eligible for examination and who may apply therefor, and shall issue to such as are found qualified certificates to that effect.

Sec. 29.—When acting as a State Board of Medical Examiners all decisions of the board in regard to the qualifications of an applicant shall be final, and not subject to modification or reversal by the Association.

Sec. 30.—Three members of the State Board of Medical Examiners shall constitute a quorum.

State Committee of Public Health

Sec. 31.—When acting as a State Committee of Public Health—the governor being *ex-officio* chairman—the board shall, through its executive officer—the State Health Officer—supervise and direct the administration of the public health and quarantine laws of the state.

Sec. 32.—In supervising the administration of said laws the State Health Officer shall have the right to visit any part of the state and confer with the health officer having jurisdiction, for the purpose of ascertaining existing health conditions, and if an infectious or contagious disease be found to exist, for the purpose of ascertaining whether or not the health laws provided for the control of such disease are being enforced.

Should he find that the public health laws are not being enforced, it shall be his right and duty to take such steps as he may deem proper to secure their enforcement.

Sec. 33.—The State Health Officer shall also have the right to call a meeting of the State Committee of Public Health for consultation and advice whenever in his opinion such meeting would promote the public health interests of the people of the state, or of any part thereof.

Sec. 34.—The State Committee of Public Health shall have the right to call a meeting of the State Board of Health (the Association) whenever in its judgment conditions so demand.

Sec. 35.—The State Committee of Public Health and the State Health Officer shall annually render to the State Board of Health (the Association) reports of their official work for such action as said board may see fit to take thereon.

Sec. 36.—Three members of the State Committee of Public Health shall constitute a quorum.

Article XIV.—Dues and Finances

(As amended, 1941)

Section 1.—Every member of The Medical Association of the State of Alabama shall pay annually into the treasury of the Association an amount to be fixed by ordinance of the Association, which amount shall be collected by the component county societies in whatever way they may provide and shall be transmitted to the Treasurer of the Association through whatever channel they may deem safest and best.

Sec. 2.—Every counsellor, other than a life counsellor, shall pay annually into the treasury of the Association an amount to be fixed by ordinance of the Association; provided that the annual amount to be paid by a counsellor, other than a life counsellor, shall not be less than ten dollars.

If in attendance at the annual session, this amount shall be paid before registering as such; if not in attendance, the amount shall be transmitted to the treasurer within two months after the adjournment of the Association.

Sec. 3.—The funds of the Association shall not be appropriated for purposes other than those

which tend to uphold and maintain its organization, perpetuate its history and advance its interests and those of scientific medicine and public health.

The publication of an official journal of the Association and, if authorized by ordinance of the Association, an annual volume of transactions shall be deemed a proper expenditure of funds.

Article XV.—County Medical Societies

Section 1.—County medical societies when organized under constitutions and by-laws approved by the Association shall be entitled to charters issued by the Association and in such form as it may prescribe.

*Sec. 2.—Graduates of reputable medical colleges shall under such terms as may be prescribed by the Association be eligible for membership in county medical societies; it being understood, however, that certificates of qualification granted by the State Board of Medical Examiners after examination, or *pro forma* certificates legally granted by said Board of Examiners, shall entitle the holders thereof to be considered as graduates of reputable medical colleges.

Sec. 3.—County medical societies shall, subject to the approval of the Association, adopt rules and regulations for their own government, shall elect their own officers, and shall perform all other needful acts not inconsistent with the constitution or ordinances of this Association.

Sec. 4.—They shall, under the general control and supervision of the Association, exercise such jurisdiction over their members as is authorized by their respective constitutions, ordinances and by-laws, except, that when in attendance upon a meeting of the Association members of county societies shall be under the jurisdiction of the constitution and ordinances of that body.

Sec. 5.—They shall adopt the "Principles of Ethics" promulgated by the American Medical Association as the standard for regulating professional fellowship and obligations among their members. Said "Principles of Ethics" shall be subject, however, to such modification as may be made by this Association.

*Note: In construing Section 2 of Article XV, *supra*, together with Section 1, Article III of the constitution of county medical societies, the State Board of Censors ruled as follows: "The board construes these sections of the state and county constitutions to mean that any person who, after examination, is granted a certificate to practice medicine in Alabama, from a strictly legal standpoint, is eligible to membership in a county medical society. The possession of this certificate, while the first and absolutely essential count, is only one among many comprising eligibility for membership. He must possess other qualifications; for instance, he must subscribe to the code of ethics promulgated by The Medical Association of the State of Alabama. He must be reputable, etc. The medical organization in Alabama is founded on the principle of local self-government. Every society within constitutional limits must be the judge of its own membership. Each society should investigate carefully every applicant who seeks membership, and admit only such as are found worthy." (Transactions, 1924.)

Sec. 6.—Every county society shall send annually to all meetings of the Association—regular or called—such a number of delegates as corresponds with the number of representatives in the lower house of the State Legislature to which each county is entitled, provided that no county society shall be entitled to less than two delegates.

Sec. 7.—Each county society shall transmit annually as dues to the Association for each of its members, exclusive of counsellors, the amount fixed by ordinance of this Association relating to membership dues; also, a report, to be prepared by its secretary covering the calendar year preceding the annual meeting of the Association at which it is rendered.

Said report shall contain:

(1) A roll of officers;
(2) A roll of members, giving names in full, together with colleges, dates of graduation and postoffices;
(3) A roll of the physicians residing in the county who are not members of the society, giving names in full, together with colleges, dates of graduation and postoffices;
(4) The number of meetings held and the number attending each meeting;
(5) A list of physicians who have moved into the county, stating from whence, and where they have located;
(6) A list of physicians who have moved out of the county, and to what places, if known;
(7) A list of physicians who have died, of what diseases, and at what ages;
(8) All other matters of special interest. (As amended, 1942.)

Sec. 8.—Each county medical society shall elect five of its most honored and truthworthy members as censors, shall fix their terms of office at five years, and shall so arrange as that the term of one of the members of the board shall expire annually.

The censors so elected shall organize by electing one of their number as chairman and another as secretary, and when so organized they shall be authorized to act in two capacities:

(1.) As a Board of Censors.
(2.) As a County Board of Health.

When acting in either one of these capacities the jurisdiction and duties of the board shall correspond, *mutatis mutandis*, with the jurisdiction and duties of the State Board of Censors, as defined in Article XIII of this constitution.

Sec. 9.—The qualifications for membership on this board and how places thereon may be filled, or duties discharged, in case of the temporary disqualification, sickness, or absence of regular members, may be prescribed from time to time by the Association.

Sec. 10.—It shall be one of the duties of the board of censors of a county medical society to register the names of all physicians in the county who hold diplomas from reputable medical colleges, or their equivalent, as defined in Sec. 2 of Article XV of this constitution, and who have complied with the law regulating the qualifications of practitioners of medicine in the state.

The courtesies of the profession as to consultation and professional intercourse shall not be accorded any practitioner whose name is not so registered, provided he has resided in the county sufficiently long for his name to be so registered.

Sec. 11.—Any person who holds a certificate of qualification granted by the State Board of Medical Examiners shall be entitled to have his name entered upon the register of physicians of the county in which he locates, provided that his certificate of qualification has been recorded in the office of the judge of probate of such county.

Sec. 12.—The register of physicians for the several counties shall be published annually for the information of the profession and the people in such a way as the respective county societies shall provide.

Sec. 13.—Whenever a constitutional, ethical, or other important question has been decided by a county society any member thereof taking issue with the decision shall have the right of appeal to the Association.

Likewise, whenever a county society, after investigation of charges preferred against any of its members, has pronounced verdict, the right of appeal to the Association shall belong to either party in the case.

An authentic copy of the proceedings in the county society must accompany all appeals to the Association.

Sec. 14.—County societies in affiliation with the Association shall abide by all decisions of the Association regardless of the attitude assumed by their respective delegates toward any question that has been settled by the Association.

Sec. 15.—Any county society within whose jurisdiction the Association shall decide to hold an annual session shall deem itself under obligation to aid in any way it can in making the necessary arrangements for holding the session.

Article XVI.—Meetings and Business of the Association

Section 1.—The Association shall hold regular annual sessions at such time and of such duration as it may fix by ordinance, and at such places as it may annually select.

Two consecutive annual sessions shall not be held at the same place.

Called sessions may be held at such times and places as the president, with the concurrence of the Board of Censors, shall appoint and name.

Sec. 2.—The order of business at the annual sessions of the Association shall be such as the Association may from time to time fix by ordinance.

The order of business at a called session of the Association shall be such as the nature of the business to be transacted shall require, and such as the Association may adopt.

Sec. 3.—The work of the Association shall be broadly classified as follows:

(1.) Matters relating to the organization and welfare of the Association, and of the county societies;

(2.) Matters relating to the enforcement of the law regulating the qualifications of practitioners of medicine in the state;

(3.) Matters relating to the administration of the public health laws of the state;

(4.) Matters relating to the advancement of scientific and practical medicine.

All business falling under the first three heads named shall be under the control of the counsellors and delegates of the Association.

Members of county medical societies in affiliation with the Association, being by virtue of such membership members of the Association, shall be entitled to seats on the floor at all annual meetings of the Association and shall have the right to participate in the discussion of all matters falling under the fourth head.

Twenty-five counsellors and delegates present at any session of the Association shall constitute a quorum for the transaction of business.

Article XVII.—Revision of the Rolls

Section 1.—At every annual session of the Association it shall be in order to revise the rolls, to-wit:

(1.) The Roll of the County Societies.
(2.) The Roll of the College of Counsellors.
(3.) The Roll of the Correspondents.
(4.) The Roll of the Officers.

Sec. 2.—Revision of the roll of the county societies shall consist in ascertaining:

(1.) Whether or not the county societies have fulfilled all of their constitutional obligations to the Association; that is, whether they are represented at the current session by delegates, have submitted reports, and have paid dues;

(2.) Their general status as to scientific work, and as to the enforcement of the law regulating the practice of medicine and the public health laws in their respective territories.

Sec. 3.—Revision of the roll of the College of Counsellors shall consist:

(1.) In grading the counsellors in accordance with the classification laid down in Article VI of this constitution;

(2.) In ascertaining whether or not any of the counsellors have been delinquent as to any of their constitutional obligations to the Association;

(3.) In ascertaining the regularity with which they have attended the meetings of their respective county societies, and the extent to which they have upheld the work and authority of said societies;

(4.) In ascertaining whether or not any of the counsellors have removed their residence, or have died.

Sec. 4.—Revision of the roll of correspondents shall consist in ascertaining whether or not any of them have changed their residences, or have died.

Sec. 5.—Revision of the roll of officers shall consist in ascertaining the number of vacancies to be filled and the terms for which the respective officers are to be elected.

Article XVIII.—Elections

Section 1.—The election of officers, counsellors, and correspondents shall be held on the last day of each annual session of the Association and shall be by ballot.

Sec. 2.—When elections are in order the president shall appoint two counsellors as tellers, who,

in connection with the secretary, shall keep the tally sheets and count the ballots.

He shall also appoint not less than three counsellors, or delegates to collect the ballots.

Sec. 3.—When the ballots have been collected they shall be delivered to one of the tellers, who shall call them out so as to be distinctly heard, one or more of the collectors of the ballots inspecting each ballot, as called out.

One of the tellers and the secretary of the Association shall keep tally sheets and when all of the ballots have been counted the vote shall be cast up and one of the tally sheets handed to the president, who shall announce the result.

Sec. 4.—No counsellor or delegate who does not display on the lapel of his coat the badge that designates his rank shall be entitled to vote.

Article XIX.—Offenses and Penalties

Section 1.—Offenses against the dignity, decorum, or welfare of the Association are defined as follows:

(1.) Malfeasance by an officer or counsellor.

(2.) Neglect of constitutional duty by an officer, counsellor, or delegate.

(3.) Refusal or neglect on the part of an officer or counsellor of the Association, or of an officer of a county society, to respond to a communication addressed to him by an official of the Association.

(4.) Rude or unparliamentary behavior on the floor of the Association by an officer, counsellor, delegate, or member.

(5.) Gross immorality, or conduct unbecoming a gentleman, committed by an officer, counsellor, delegate, or member, while in attendance upon a session of the Association, either at the place of meeting, or elsewhere in the town or city in which a session is being held.

(6.) Violation of the principles of ethics, recognized by the Association, on the part of an officer, counsellor, delegate, or member while in attendance upon a session of the Association, or elsewhere in the town or city in which a session is being held.

(7.) Disloyalty to the Association on the part of a county society.

(8.) Apathy and dereliction on the part of a county society in the performance of any of its constitutional and legal duties.

Sec. 2.—Charges and specifications written out in due form may be preferred against any officer, counsellor, delegate, member or county society guilty of such malfeasance, misconduct, disloyalty, or apathy, as is embraced in the preceding section, and in the investigation of such charges and specifications the Association shall have original jurisdiction.

The charge or charges shall cover in general terms the offense or offenses, and the specifications shall state as definitely as can be done the time, place, and nature of the offense, or offenses.

Sec. 3.—All charges and specifications against an officer, counsellor, delegate, or member shall be signed by the author, or authors thereof, and then delivered, or forwarded to the secretary of the Association, who shall read them in open session, and record them in the minutes. All such charges shall, without discussion, be referred by the president to the Board of Censors.

Sec. 4.—Charges against a county society may be submitted to the Association by any officer, or member thereof who is cognizant of the offense, or offenses committed.

Investigation

Sec. 5.—The Board of Censors shall investigate any charges and specifications referred to it as speedily as may be consistent with acquiring correct knowledge in the premises, and shall make such report of the investigation as will convey to the Association adequate knowledge and understanding of all the facts in the case.

Sec. 6.—Any officer, counsellor, delegate, or member against whom charges and specifications have been preferred shall be furnished by the secretary with a copy thereof; shall be allowed reasonable time in which to secure witnesses, or such other evidence as he may desire to offer, and at the trial of the case before the Board of Censors, shall be entitled to be heard in person or by counsel, or both, and shall further be entitled to question and cross-question witnesses, and to present, either in person, or through counsel, or both, such explanations and arguments as he may desire, or as the Board of Censors may deem proper and in order.

When the case comes before the Association he shall likewise be entitled to be heard in person or by counsel, or both, and at such length as the Association may determine.

The same privileges shall be accorded to the author or authors of the charges and specifications.

Sec. 7.—When charges against a county society have been submitted to the Association a copy of the charges shall be sent by the secretary to the president of the society.

Sec. 8.—During the investigation of the charges against a county society the society may be represented both before the State Board of Censors and the Association by such of its officers, or members as have been authorized to represent it, or by counsel, or by both.

The investigation shall be conducted in all respects in accordance with the provisions laid down with reference to persons.

Sec. 9.—When the Board of Censors submits a full and adequate report of the investigation to the Association the matter shall be open for such discussion as the Association may permit, and, when decided, the vote shall be taken by ayes and noes.

Penalties

Sec. 10.—Penalties may in accordance with the gravity of the offense be imposed as follows:

(1.) An officer may be censured, removed from office, or debarred temporarily from the privileges of the floor, one or all.

(2.) A counsellor may be censured, debarred temporarily from the privileges of the floor, or deprived of his counsellorship, one or all.

(3.) A delegate may be censured, or deprived of his position as delegate, one or both.

(4.) A member may be censured, or debarred temporarily or permanently from the privileges of the floor, one or both.

(5.) A county society may be censured, or its charter may be annulled.

Sec. 11.—Censure, temporary exclusion from the privileges of the floor, or removal from the position of a delegate may be imposed by a majority vote; removal from office, or from a counsellorship, permanent debarment from the privileges of the floor or annullment of the charter of a county society shall require a two-thirds vote.

All votes involving the imposition of a penalty shall be taken by ayes and noes.

Sec. 12.—When a penalty has been declared against an officer, counsellor, delegate, or member, it shall be the duty of the president to summon the offender before the Association and to announce to him the sentence, accompanied by such comments as he deems appropriate.

Should the offender not be in attendance upon the session of the Association at which sentence is decreed, or should he refuse to respond to the summons, the president shall still pronounce sentence in such terms and words as he may deem suitable. The secretary shall keep full minutes of the proceedings and if the offender was not present to receive the sentence, shall notify him, in writing, of the nature of the sentence and of any remarks that were made by the president in imposing it.

Sec. 13.—When a penalty of censure has been decreed against a county society the president shall announce the sentence to the Association, making such comments as he deems proper, of which sentence and remarks the secretary shall notify, in writing, the president of the county society concerned.

Should the Association decide to annul the charter of a county society it shall fix a definite time at which such annulment shall take effect, and in addition to so announcing in open session the president shall authorize the State Board of Censors to inform the judge of probate and commissioners, or board of revenue, and the municipal authorities of all incorporated towns, of the county concerned of such annulment.

Article XX.—Appellate Jurisdiction

Section 1.—The Association shall exercise appellate jurisdiction in all investigations of charges made by one member, or several members, of a county society against another member, and also in all questions of ethics or policy that may have been adjudicated by a county society. In any case of the former kind the right of appeal shall belong to either the plaintiff or defendant; in any case of the latter kind it shall belong to any member of the society.

Sec. 2.—Whenever the right of appeal from the decision of a county society is exercised, formal notice must be given to the secretary of the Association, which notice must be accompanied by a full report of the proceedings had in the county society, properly authenticated by the president and secretary.

When an appeal, accompanied by all necessary papers, is submitted to the Association it shall, without discussion, be referred to the Board of Censors. In the investigation of the appeal so referred the method of procedure by the board shall correspond as nearly as it can with that laid down in Sections 10, 11, 12, 13, 14, 15, and 16, of Article XIII of this constitution as applying to persons.

Sec. 3.—The Association shall have the right to confirm or amend in such way as it deems proper, any verdict rendered, or conclusion reached, by a county society, the decision of the Association being final. The Association may, however, in its discretion, remand any cause or question which has been appealed from a county society back to the society for further investigation and report.

Article XXI.—Ordinances, By-Laws, and Amendments

Section 1.—The Association shall have the right to adopt such ordinances and by-laws for its own government and that of the county societies as it may deem proper.

Any of said ordinances or by-laws may be amended, suspended, or repealed at any annual session of the Association.

Sec. 2.—All proposed amendments to the provisions of this constitution shall be submitted in writing at a regular annual session of the Association, shall lie over until the next annual session, and shall then require for adoption not less than a two-thirds vote of the counsellors and delegates present, the vote being taken by ayes and noes.

Article XXII.—Time Constitution Goes Into Effect

Section 1.—This constitution shall go into effect on the adjournment of this session.

ORDINANCES OF THE ASSOCIATION

Sessions of the Association, and Order of Business Therein

(Adopted, 1918; amended, 1921.)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That the sessions of the Association shall comprise three days, Tuesday, Wednesday and Thursday, the third Tuesday in April being the first day of the meeting.

Sec. 2. That the Association shall be called to order by the president at nine o'clock on Tuesday morning the first day.

Sec. 3. That the regular order of exercises shall be the same as that which now obtains in the conduct of the business of the Association.

Sec. 4. That the last day of the session shall be devoted to the transaction of the business of the Association, the report of the Board of Censors, the revision of the rolls and the election of officers.

The Scientific Program of the Association

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That it shall be the duty of the president in preparing the scientific program for an

annual meeting of the Association to see that the subject to be treated by each member to whom a place on the program has been assigned is expressly stated.

Sec. 2. That the name of a member shall not appear on the scientific program unless he has agreed, in writing, to prepare a paper on the subject assigned him, or on a subject which he himself has selected.

Sec. 3. That all papers shall be legibly written, shall be handed to the secretary before the adjournment of the session at which they have been presented, and that papers in regard to which these rules have been violated shall not be entitled to publication in the Journal of the Association.

Sec. 4. That the time allowed for the reading of a paper shall not exceed thirty minutes, except that by unanimous consent the time may be extended, provided that in no case shall it exceed one hour.

Sec. 5. That the authors of lengthy papers shall prepare abstracts thereof to be read to the Association, the time allotted to the reading of such abstracts not to exceed thirty minutes, and that when such abstracts are read they shall be submitted, together with the complete papers, to the committee of publication.

Sec. 6. That the names of members who are to read papers shall be called in the order in which they appear on the program, and that if any one of them fails to read his paper in its regular order his name shall not be called the second time until the end of the schedule has been reached.

Sec. 7. That in the discussion of papers a member shall not be allowed to speak at any one time more than ten minutes, nor more than twice in the discussion of any one paper.

List of Persons Entitled to Vote to be Furnished the President

Be it ordained by The Medical Association of the State of Alabama:

That, at the opening of the third day's session or any called meeting of the Association, it shall be the duty of the secretary and treasurer to furnish the president with an alphabetical list of all registered counsellors and delegates, in order to provide facilities for calling and recording an aye and nay vote, when such vote is required by the constitution, or may be demanded by one-fifth of the members present; provided, that when such a vote is taken, should the name of any counsellor or delegate, who is present, be not called, it shall be in order for the president to withhold the announcement of the result until the registration list of voters can be constitutionally amended by adding thereto the missing name or names and giving the parties an opportunity to vote.

Legal Notice of the Action of the Association

Be it ordained by The Medical Association of the State of Alabama:

That the publication of the proceedings of this Association in the annual volume of transactions shall constitute legal notice to all counsellors, members and delegates, as well as to all other persons, as to the action of the Association upon any matter which has been submitted to it, provided that such notice may be given to counsellors, members and delegates by the chairman of the Board of Censors through special circulars issued in advance of the publication of the annual volume of transactions whenever in his judgment the interests of the Association demand such notice, or whenever the Association orders such advanced notice to be given.

Evidence of Attendance Upon a Meeting of the Association

Be it ordained by The Medical Association of the State of Alabama:

That, in the revision of the roll of counsellors, registration made in strict compliance with the method prescribed by this Association shall be the only valid evidence of attendance upon meetings of this Association.

Salary of Secretary-Treasurer
(As amended, 1940.)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That, until otherwise decreed by ordinance of the Association, the duties of the Secretary-Treasurer of the Association be combined; that said duties, as defined in the constitution, be performed by one member of the Association, this officer to be known as Secretary-Treasurer of The Medical Association of the State of Alabama, and to be elected for a period of five years and in the same manner as other officers of the Association.

Sec. 2. That the salary of the Secretary-Treasurer shall be one thousand dollars ($1,000.00) annually, together with such clerical help not to exceed three hundred dollars ($300) as the board may deem necessary for the proper operation of the office; said salary to be payable in monthly installments from the funds of the Association.

Secretary-Treasurer to be Supplied With Funds to Meet Current Expenses

Be it ordained by The Medical Association of the State of Alabama:

That the actual expense incurred by the secretary and treasurer of the Association, exclusive of annual attendance upon meetings, in the routine discharge of official duties, shall be viewed as justifiable charges against the funds of the Association, when, at each annual meeting of the Association such expense account, properly itemised, is submitted by the officer concerned. (As amended, 1940.)

Miscellaneous Appropriations

Be it ordained by The Medical Association of the State of Alabama:

That there is hereby appropriated from Association funds the following amounts:

Section 1. A sum not to exceed $300 per annum to be utilized in providing postgraduate courses for the physicians of the state. (Adopted, 1935.)

Sec. 2. As an honorarium, $100 annually for the purpose of defraying the expense of the Jerome Cochran Lecturer. (Adopted, 1935.)

Sec. 3. An amount not to exceed $75.00 per year for each of the Association's delegates to the American Medical Association. (Adopted, 1935.)

Sec. 4. The sum of $500 to the Association's Committee on Archives and History for its use in connection with the compilation of a history of medicine in Alabama. (Adopted, 1942.)

Dues of Members and Counsellors
(Adopted, 1941)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. Every member of The Medical Association of the State of Alabama shall pay annually into the treasury of the Association the sum of five (5) dollars, which amount shall be remitted to the treasurer in accordance with the provisions set forth in Article XIV of the constitution of this Association.

Sec. 2. Every counsellor, other than a life counsellor, shall pay annually into the treasury of the Association the sum of ten dollars, which amount shall be remitted in accordance with the provisions set forth in Article XIV of the constitution of this Association.

Be it ordained by The Medical Association of the State of Alabama:

That the treasurers of the county societies shall pay to the treasurer of this Association dues for every member whose name appears on the roll, except counsellors, and those members who have been continuously identified with the profession of the state for thirty years and who have been exempted from the payment of local dues in conformity to an ordinance adopted by this Association in 1938, relating to such members. (As amended, 1941.)

Remission of Dues

Be it ordained by The Medical Association of the State of Alabama:

That any society having in its membership one who has been continuously identified with the organized medical profession of this state for thirty consecutive years shall not be required to remit payment for such member to the treasurer of the Association; provided, the county medical society of which he is a member has exempted him from the payment of local dues. (Adopted, 1938.)

Districts and Duties of Vice-Presidents
(Adopted, 1925)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That the state be divided into four vice-presidential districts, to-wit: The Northeastern, the Southeastern, the Northwestern and the Southwestern Districts.

Sec. 2. That the Northeastern District shall consist of the following counties: Blount, Calhoun, Chambers, Cherokee, Clay, Cleburne, Coosa, DeKalb, Etowah, Jackson, Madison, Marshall, Randolph, Shelby, St. Clair, Talladega and Tallapoosa.

That the Southeastern District shall consist of the following counties: Autauga, Barbour, Bullock, Chilton, Coffee, Covington, Crenshaw, Dale, Elmore, Geneva, Henry, Houston, Lee, Macon, Montgomery, Pike and Russell.

That the Northwestern District shall consist of the following counties: Bibb, Colbert, Cullman, Fayette, Franklin, Jefferson, Lamar, Lauderdale, Lawrence, Limestone, Marion, Morgan, Pickens, Tuscaloosa, Walker and Winston.

That the Southwestern District shall consist of the following counties: Baldwin, Butler, Choctaw, Clarke, Conecuh, Dallas, Escambia, Greene, Hale, Lowndes, Marengo, Mobile, Monroe, Perry, Sumter, Washington and Wilcox.

Sec. 3. That a vice-president shall be elected to preside over each of these four districts.

Sec. 4. That, in addition to the other duties of a vice-president prescribed in the constitution, he shall hold each year two meetings of the medical societies comprising his district—one during the summer and one during the fall—and at such places as he may deem most suitable and accessible for the members of his district. (As amended, 1931.)

Sec. 5. That the actual expense incurred by each divisional vice-president, insofar as printing, postage and typing are concerned, shall be viewed as a proper charge against the funds of the Association, when, at each annual session of the Association, such expense account, properly itemized, is submitted, accompanying the vice-presidential report from the district.

Term of Office of State Health Officer

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That this Association, acting in the capacity of the board of health of the State of Alabama, hereby authorizes the election, from time to time as occasion may require, of an executive health officer to be entitled the health officer of the State of Alabama.

Sec. 2. That the said health officer shall be elected by the Committee of Public Health of this Association; that his term of service shall be for five years; and that he shall be paid out of the annual appropriation made to the State Board of Health to carry into effect the health laws of the state such annual salary as the Committee of Public Health may from time to time determine.

Sec. 3. That it shall be the duty of the said health officer to keep the books and papers, and to conduct the correspondence of the State Board of Health; to give such assistance in the organization of the county boards, and in the conduct of their subsequent operations, as may be ordered by the State Board of Health; to obtain from the county boards of health, and from other available sources, the fullest possible reports in regard to the diseases of the several counties, and of the causes in which such diseases originate; to prepare, under the direction of the State Board of Health, an annual report upon the vital and mortuary statistics and the sanitary condition of the

state; and to make such special investigations of endemic and of epidemic diseases, and of other problems in sanitary science as may be ordered by the State Board of Health.

Sec. 4. That the said health officer shall be the general executive officer of the State Board of Health; that in the intervals between the annual sessions of the Association he shall be under the orders of the Committee of Public Health of the Association; and that he may be at any time removed from office by the said Committee of Public Health for incompetence, or malfeasance in office, or other sufficient cause.

State Health Officer Pro Tempore
(Adopted, 1918)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That in case of the contemplated absence of the State Health Officer from the state, or in case of his disability from any cause of such character as would interfere with the proper discharge of his official duties, he shall appoint, with the approval of the Board of Censors, a suitable person to act as a substitute for him as State Health Officer.

Sec. 2. The acts of the person so appointed shall have the same force and effect of law as if performed by the State Health Officer.

Sec. 3. In the event of the failure on the part of the State Health Officer to appoint a person to act for him during his absence or disability, the Board of Censors is hereby directed to make such an appointment, if in their judgment the same should be necessary, said appointee to enjoy all the powers at law which pertain to the State Health Officer.

Sec. 4. The salary of the person appointed to act as State Health Officer *pro tempore* shall be paid by the State Board of Health, out of the salary of the State Health Officer. This shall terminate when the State Health Officer returns to duty.

The Organization of Standing Committees
(As amended, 1932)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That, whenever, in the judgment of the Association, it seems desirable to establish any standing committee or council in order to promote the working interest of this body, it shall become the duty of the State Board of Censors to recommend the name of such committee to be created, together with the number of members to serve on such committee or council; and, further, that the provisions of this ordinance shall apply to those committees and councils now existing in the Association.

Sec. 2. That the members selected to serve on standing committees or councils shall be appointed by the president, and that the first named member of such committee or council shall serve as the chairman thereof; and, further, that the terms of service of the committeemen, unless otherwise specifically provided, shall be for five years.

Sec. 3. That as vacancies occur these shall be filled by the president and announced to the appointees by the secretary within one month of the adjournment of the annual meeting of the Association.

Sec. 4. That all such committees or councils shall submit annual reports to this body of work done and progress made, and the secretary of the Association shall keep a roster of each of said committees and councils in conformity with the provisions of this ordinance.

Sec. 5. That it shall be the duty of the chairmen of said committees or councils to give the president such information and reasonable assistance as he may request in the conduct of the business of the Association.

Sec. 6. That the chairman of each committee shall, if necessary, be supplied with the necessary stationery and postage for the proper conduct of his office; the amount of such expense to be determined by the secretary of the Association and the secretary of the State Board of Censors after due and proper consideration has been given to the volume of work done by each committee. (As amended, 1938.)

Sec. 7. That for the purpose of defraying actual travel expense of its membership, when, in the opinion of the chairman of a committee, it would seem advisable to hold a meeting of the committee at a time other than the annual meeting of the Association, there is appropriated an amount not to exceed $10.00 per member; it being the intent to provide for the travel expense of those members of each committee actually attending one committee meeting when called by the chairman. (Adopted, 1935.)

Sec. 8. That no provision of this ordinance shall apply to the appointment or organization of temporary committees or councils.

Committees of the Association
(Adopted, 1933 and amended, 1935)

Be it ordained by The Medical Association of the State of Alabama:

That the following committees are hereby created, their establishment to be in accordance with the ordinance of the Association providing for the organization of standing committees:

(1.) Committee on Public Relations, to be composed of five members; with the president of the Association, the chairman of the State Board of Censors, and the State Health Officer ex officio members.

(2.) Committee on Maternal and Infant Welfare, to be composed of three members.

(3.) Committee on Mental Hygiene, three members.

(4.) Committee on Cancer Control, three members.

(5.) Committee on Prevention of Blindness and Deafness, three members.

(6.) Committee on Postgraduate Study, three members. (Adopted, 1936.)

(7.) Committee on Accidents and Industrial Hygiene, three members. (Adopted, 1936; amended, 1940.)

(8.) Committee on Medical Archives and History, five members. (Adopted, 1940; amended, 1942.)

(9.) Committee on Physician-Druggist Relationships, three members. (Adopted, 1940).

Committee of Publication
(As amended, 1932)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That the Journal and the transactions of the Association be published under the direction of the State Board of Censors.

Sec. 2. That the Committee of Publication shall consist of three members of the Board of Censors, the secretary of the Board, and the secretary of the Association.

Sec. 3. That it shall be the duty of this committee to make all contracts for the printing and distribution of the Journal and the annual volume of transactions, and to supervise and edit said publication, with authority to admit in full or in part or to exclude such papers, reports and discussions as it may deem proper.

Sec. 4. That the terms of service of the committee personnel shall be at the pleasure of the Board of Censors.

Sec. 5. That in the annual volume of transactions shall be included the complete report of the annual proceedings of the Associaton and a roster of its members; and that a sufficient number of bound volumes of the transactions shall be printed to furnish each member a copy, and that the cost of such publication shall not exceed $1,500.

Sec. 6. That there is appropriated a sum not to exceed $1,000 per annum, part or all of which may be used for defraying expense of editorial and clerical assistance in the publication of the Journal. (Adopted, 1933.)

Important Duties of Counsellors and Members

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That it is the sense of this Association that all of its counsellors and members are in honor bound to give their faithful and earnest support to all of its declared plans and policies;

Sec. 2. That it is inconsistent with the duty of counsellors, delegates, or members to antagonize any of said plans and policies, either in the public press, or in the general assembly, or in any other ways than on the floor of the Association;

Sec. 3. That counsellors and members should not appeal to the courts of the country against decisions of the Association in which they are personally concerned, except to protect themselves against manifest injustice;

Sec. 4. That all counsellors and members should be willing to settle all differences growing out of their relations to the Association in the Association itself, and to acquiesce in the constitutionally expressed will of the majority;

Sec. 5. That the provisions of this ordinance shall also apply, *mutatis mutandis*, to the county medical societies in affiliation with this Association in questions arising between the societies and their members; and that members of county societies should not carry their society grievances into the courts, except as a means of last resort, and after appeal to the Association.

Duties of Delegates

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That it shall be the duty of the delegates to attend all sessions of the Association, in order that they may be in a position to act for their respective societies upon all questions that may arise;

Sec. 2. That it shall specifically be the duty of delegates to be present at the session of the Association when the roll of the county societies is being revised, in order that they may represent their respective societies in this important order of business;

Sec. 3. That it shall be the duty of delegates to represent their societies before the Board of Censors of the Association, whenever called upon so to do, and also to bear back to their respective societies full reports of all important actions taken by the Association at any given meeting.

Seating of Alternate Delegate
(Adopted, 1915)

Be it ordained by The Medical Association of the State of Alabama:

That in the event of any one or more of the delegates appointed or elected to represent their respective county societies failing to register at the annual meeting of the Association before adjournment of the afternoon session of the second day, the privilege of registering and serving as delegates shall belong to the alternate delegates or to any one of them.

Delegates to Medical or Other Meetings

Be it ordained by The Medical Association of the State of Alabama:

That whenever the president of the Association desires to appoint any of the members as delegates to medical, or other, meetings, he shall forward to the secretary of the Association the names of the members to be so appointed, whereupon, the secretary shall, after making a record thereof, return to the president for his signature commissions for such delegates, said commissions to be made out on official paper and to have the seal of the Association stamped thereon.

The Revision of the Rolls

Be it ordained by The Medical Association of the State of Alabama:

That the chairman of the Board of Censors, the secretary and the treasurer of the Association be and they are hereby constituted a committee on the revision of the rolls.

Section 1.—*The Order of the Revision of the Roll of the County Medical Societies.*

(1.) *Be it further ordained*: That the said committee shall, at every annual session of the Association, in advance of the time for the revision of the rolls, prepare three lists or schedules of the county medical societies; the first list to contain in alphabetical order, the names of all such county societies as have complied with the rules of the Association in regard to representation, reports and dues; the second list to contain the

names in alphabetical order of all such county societies as have complied with some of the rules of the Association in regard to representation, reports and dues, but which have not complied with all of them, mentioning in connection with each society the delinquency, or the delinquencies charged against it; the third list to contain the names, in alphabetical order, of all county societies as have failed entirely to comply with the rules of the Association in regard to representation, reports and dues; these three lists or schedules being entitled, respectively, societies not delinquent, societies partially delinquent, and societies wholly delinquent.

(2.) That when the time comes, in the progress of the revision of rolls, for the secretary to call the names of the county societies, he shall first call, consecutively, all the names on the first schedule above provided for; whereupon, the president shall say: *You have heard the list of county societies which the secretary has just read, and which are reported as having complied with all the rules. If there is no objection these societies will be duly passed.* And the order shall be made accordingly.

(3.) Then the secretary shall, in like manner, call, consecutively, all the names in the second schedule above provided for, mentioning the delinquency in each case; whereupon, the president shall say: *You have heard the list of county societies just read by the secretary, with the delinquencies respectively charged against them. If there is no objection these societies, notwithstanding their partial delinquencies, will be passed.* And the order shall be made accordingly, with the understanding that the secretary and treasurer will endeavor as speedily as possible to obtain the missing reports and dues.

(4.) Then the secretary shall, in like manner, call, consecutively, all the names on the third schedule above provide for; whereupon, the president shall say: *You have heard the list of county societies just read by the secretary as being delinquent in representation, reports and dues. If there is no objection these societies will be referred to the Board of Censors for investigation.* And the order shall be made accordingly.

(5.) Then the president shall say: *Have all the county societies been called? Is there anything further to be done in regard to the roll of county societies?* If nothing further is suggested, the president shall say: *The revision of the first roll is here ended. The roll of the county medical societies stands closed until the next annual session of this Association.*

Sec. 2.—*The Order of the Revision of the Roll of the College of Counsellors.* (As amended, 1918.)

(1.) *Be it further ordained:* That in like manner and after due consultation, the committee on the revision of the rolls shall prepare five lists or schedules of the counsellors of the Association. The first list shall contain in alphabetical order under the heads of life counsellors and active counsellors, the names of all such counsellors as have complied with the rules of the Association in regard to attendance and dues, and against whom no charges are pending. The second list shall contain in like order the names of all such counsellors as may be delinquent in attendance or dues, or against whom charges may be pending. The third list shall contain the names of all such counsellors as may have died since the last revision, or have offered their resignation, or have moved out of the state or out of their respective congressional districts. The fourth list shall contain the names of all active counsellors of twenty years' standing. The fifth list shall contain the names of all counsellors-elect who have signed the pledge and paid the dues.

(2.) These five lists or schedules shall be designated, respectively, as follows: (a) The schedule of counsellors clear of the books; (b) The schedule of delinquent counsellors; (c) The schedule of miscellaneous counsellors; (d) The schedule of active counsellors of twenty years' standing; (e) The schedule of counsellors-elect who have signed the pledge and paid the dues. (As amended, 1928.)

(3.) That when the time arrives in the progress of the revision of the rolls for the secretary to call the roll of the College of Counsellors he shall first call consecutively all the names on the first of the lists provided for above; whereupon, the president shall say: *You have heard the names of the counsellors just read by the secretary and reported to be clear of the books. If there is no objection they will be passed.* And the order shall be made accordingly.

(4.) Then the secretary shall in like manner call all the names on the second list, provided for above; whereupon the president shall say: *You have heard the names of the counsellors just read by the secretary and reported to be delinquent in their obligations to the Association. Under the rules, and if there is no objection, these names will be struck from the roll of the College of Counsellors, and of this they shall be duly notified by the secretary.* And the order shall be made accordingly.

(5.) Then the secretary shall in like manner call all the names on the third of the lists provided for above; whereupon, the president shall take such action in each case as may be appropriate under the circumstances.

(6.) Then the secretary shall call all the names on the fourth of the lists provided for above; whereupon, the president shall say: *You have heard the list of names as read by the secretary of the active counsellors who have served as such for twenty consecutive years. Under the rules of the Association these counsellors are entitled to be transferred to the roll of life counsellors. If there is no objection they will be so transferred.* And the order shall be made accordingly. (As amended, 1918.)

(7.) Then the secretary shall read the fifth list provided for above; whereupon, the president shall say: *You have heard the list of names as read by the secretary of the counsellors-elect who have signed the pledge and paid the dues. Under the rules of the Association these counsellors-elect are entitled to be transferred to the roll of active counsellors. If there is no objection they will be so transferred.* And the order shall be made accordingly. (As amended, 1918.)

(8.) Then the president shall say: *Have all the counsellors been called? Is there anything else*

to be done in relation to the roll of the College of Counsellors? And if there is nothing, he shall add: *The revision of the second roll is here ended. The roll of the College of Counsellors stands closed until the next annual session of the Association.*

Counsellorship Vacancies— How Filled (Adopted, 1918)

Be it ordained by The Medical Association of the State of Alabama:

Then whenever the transfer of a counsellor to the roll of life counsellor is made, or whenever a counsellor is dropped from the roll from any cause, the vacancy shall be filled as follows:

(1.) If the district in which the vacancy occurs is left with a less number of counsellors than that to which it is entitled, the vacancy shall be filled from the said district.

(2.) If the district from which the counsellor is dropped should still have the number to which it is entitled, the Board of Censors shall designate which district shall have the privilege of selecting a counsellor to fill the vacancy.

(3.) That when it becomes the duty of the board to apportion counsellors they shall be distributed among those districts in which the greater number of vacancies exist.

Notice of Time and Place for the Assembling of Delegates and Counsellors for the Purpose of Making Nominations for Vacancies in the College of Counsellors (Adopted, 1918)

Be it ordained by The Medical Association of the State of Alabama:

That the time for assembling of counsellors and delegates for making nominations for vacancies in the College of Counsellors shall be 7:30 o'clock P. M. on the second day of the annual session of the Association and the president and secretary shall make proper arrangements for suitable places for assembling.

Counsellor-Elect to Furnish Brief Biography

Be it ordained by The Medical Association of the State of Alabama:

That a counsellor-elect when he accepts the position tendered him and signs the pledge* required shall, at the same time, furnish a brief account of his life, and further that the name of a counsellor-elect shall not be placed on the roll of counsellors until such account has been furnished to the secretary of this Association.

Ordinance Governing Contract Practice (Adopted, 1926)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That a physician, without violating the ethics of the profession, may contract to render the following service, either for a stated salary or on a fee basis, which shall be commensurate with the professional service rendered and expressed in terms as near as possible of the medical fee bill which prevails in the locality in which the contract obtains.

Subsection 1. To perform surgical service, as far as accidents are concerned, for the unofficial employees of railways, mining, manufacturing, commercial or public service company, corporation, establishment or organization, or for any person for whom such corporation may be held responsible by law.

Subsection 2. To perform medical and surgical service for the unofficial employees of mining or manufacturing companies, and the dependent members of their families, but not for the salaried officials, nor for the families of such salaried officials.*

Subsection 3. To perform medical and surgical service for the pupils attending educational institutions away from their homes, without including in such contract the president, professors, or teachers of such institutions or their families.

Subsection 4. To perform medical and surgical service for the inmates of charity hospitals and prisons without including in such contract salaried officials and managers of such institutions or their families.

Subsection 5. To practice in a hospital maintained by a railroad, mining, or manufacturing

*The pledge referred to is as follows: Having been elected a counsellor of The Medical Association of the State of Alabama, I hereby formally accept the position with all of its honors, duties, and expenses; and give my deliberate and solemn pledge and promise to observe faithfully, in letter and in spirit, the constitution, ordinances and rules of said Association; and in every way open to me to do what I can for the advancement of its power and influence, and for the accomplishment of the objects for which it was organized.

In testimony whereof I hereunto affix my signature, this the day of , 19

..... M. D.

*Note: The State Board of Censors, at the 1928 session of the Association, construed and interpreted Subsection 2 of Section 1 as follows: "That the term 'unofficial employee' means any employee who is not financially able to obtain efficient medical and surgical attention in times of sickness and distress. The employee's income under this interpretation will vary in different parts of the state according to the economics and living conditions in the community in which the particular contract is entered. It is assumed that each county medical society shall have authority to determine the income limit for the contracts within its boundaries, as provided for under the terms of this interpretation. For instance, $150 per month in some communities would be equitable, $200 per month in other communities would be equitable, but in no case, and under no circumstances, and in no locality, shall the income of the employee claiming benefits under this ordinance exceed, from all his combined sources of revenue, $250 per month or $3.000 per annum." This interpretation was adopted by the Association.

company, establishment or corporation or any hospital partially maintained by a railroad, mining, manufacturing company or corporation for the care of their sick and wounded employees, provided said hospital does not enter competitively upon the practice of medicine.

Subsection 6. To practice in a hospital with which contracts are made by a railway, mining, manufacturing, commercial, or public service company, corporation or establishment, or by a governmental agency, approved by the county medical society and by the State Board of Censors of this Association, for the care of their own sick and wounded, but not for the salaried officials of such companies or agencies and their families, provided such hospital maintains in such contracts a minimum rate charge commensurate with the acceptable standards of cost for hospital service. (As amended, 1938.)

Subsection 7. To perform surgical service, in so far as accidents are concerned, for employees of a corporation that carries group accident insurance for its employees. (Adopted, 1933.)

Subsection 8. To serve as examiner, or medical director, or medical referee for an insurance company that is engaged in the business of life, health or accident insurance. (Adopted, 1933.)

Subsection 9. To perform service, either on a salary or fee basis in examining individuals who are ill, or who have received injuries, and who carry individual health or accident policies in an insurance, accident or casualty company, and of reporting thereon. (Adopted, 1933.)

Subsection 10. To perform medical and surgical service for certain groups of Alabama citizens and their families who, because of their low economic and financial status, are receiving government aid for purposes of rehabilitation.

All contracts permitted under this subsection and made with a governmental agency shall, over and above the provisions set forth in other sections of this ordinance, include the following:

(a) Approval of any plan to first be given by the medical society of the county in which it is to operate and also by the Board of Censors of The Medical Association of the State of Alabama:

(b) Participation in such plan by all members of the county medical society desiring to do so;

(c) Regulation and censorship by the board of censors of the county medical society of all medical phases of the program, including charges, fee schedules and the adjudication of differences arising between patient and physician;

(d) Preservation of the principles of free choice of physician and of the physician-patient relationship. (Adopted, 1938.)

Section 2. Except as set forth in Subsections 6 and 10 of Section 1, a physician shall not without violating the ethics of the profession, contract to render the following service:

Subsection 1. To perform medical or surgical service for private individuals, groups of individuals, lists of individuals, or for any society, lodge, club, or in what is commonly denominated a list hospital, or a hospital which secures its patients by unfair competition or unfair methods. (As amended, 1938.)

Subsection 2. To perform medical or surgical service in a hospital or clinic with hospital service which does not conform to the ordinance of this Association now regulating group hospital insurance or which may hereafter be adopted by this Association. (As amended, 1938.)

Subsection 3. To perform medical and surgical service in a hospital or clinic that for a weekly, monthly, quarterly or annual stipend or stipend collected at other intervals, agrees to provide hospital service for individuals or groups of individuals, except in a hospital with which contracts are made by railway, mining, manufacturing, or public service companies, or by a governmental agency, approved by the county medical society and by the Board of Censors of this Association, for the care of their own sick and wounded. (As amended, 1938.)

Section 3. That a physician shall not, without violating the ethics of the profession, contract with, or be employed by an insurance, accident or casualty company to render the following service:

Subsection 1. To perform medical and surgical services for individuals, or the families of individuals, who carry health or accident policies in insurance, accident or casualty companies. (As amended, 1933.)

Subsection 2. To perform medical and surgical services for groups of policy holders in insurance, accident or casualty companies, except for groups insured by corporations which are responsible for the accidental injuries to their employees according to the compensation laws of the state of Alabama. (As amended, 1933.)

Section 4. That all contracts allowed under this ordinance shall be made with the proper officials of the company, corporation or agency entering into such contract and compensation for professional or hospital services shall be paid direct from the treasury of the company, corporation, or agency concerned. (As amended, 1938.)

Section 5. That any plan for providing hospital services on the insurance basis which deals exclusively and only with the hospitalization of the sick will be considered ethical, provided that the contract entered into between the institution and the patient shall be uniform, in every phase, throughout the state, and shall have the approval of the county board of censors and of the State Board of Censors. (As amended, 1935.)

Section 6. That all underbidding by physicians or hospitals on contract permitted by this ordinance shall be regarded as unethical and treated accordingly.

Section 7. That all contracts made by members of this Association under this ordinance shall be open to inspection by the county medical society having jurisdiction through its legally constituted representatives.

Section 8. That any and every part of this ordinance, on which there is a difference of opinion, so far as interpretation is concerned, shall be interpreted in the light of the opinions expressed

in the conclusions* on which this ordinance is based.

*Note: The conclusions referred to in Section 8, supra, are as follows: "First. While viewing with distrust contracts of any and every nature, because of their demoralizing effect upon the medical profession and their tendency to break down the high standards of medical ethics, the State Medical Association in 1890 entered into a quasi-contract with the industries of the state to permit its members to do contract practice of a prescribed nature without endangering their ethical standing in the Association. Second. This departure from the established usages and traditions of medical ethics was agreed to so that changing conditions in the social order might be met and that we might contribute our share of service in the development of the economic resources of the state. Industry was faced by an impossible labor situation, and the agreement contemplated placing at the disposal of industry the best medical talent of the state, and that in return therefor, industry should pay its medical and health advisors a reasonable compensation for their service. Third. The present development of the industrial resources of the state of Alabama has been made possible through the advice of the doctor in industry, just as the building of the Panama Canal was made possible through the advice of General Gorgas and his associates. Fourth. It would be a breach of faith on the part of the State Medical Association, after thirty-five years of constructive work under this quasi-contract, for the Association to abrogate it and ask of industry that it start all over again to build up a new system of health control, medical and surgical reconstruction. Fifth. The State Medical Association went into this agreement with the industrial corporations of the state with the tacit understanding that industry would do nothing that would have a tendency to lower the standards of excellence of service or bring reproach upon the traditions of the profession. Our recent investigations have disclosed the fact that bids have been called for from the medical profession by industry. Underbidding for contracts has been engaged in by members of the profession. Contracts have been let to the lowest bidder by industrial corporations without regard to the character or efficiency of the service rendered. The board is of the opinion that this is a breach of faith with the State Medical Association. Both the letter and the spirit of the quasi-contract entered into in 1890 are violated. Sixth. That a contract with a doctor, the terms of which require him to furnish medicine, drugs and hospital care is a violation of the spirit, if not the letter, of the contract, because operatives cannot possibly receive proper service under this type of contract, and, in addition thereto, such contracts present a strong temptation to the doctor to neglect his patient in the interest of the support of his family. Seventh. This calling for bids by industrial corporations has brought about an intolerable condition in the industrial sections of the state, which the State Medical Association feels called on to rebuke. Out of these abuses have grown lodge practice, list practice, the list hospital and a number of other unethical and fraudulent practices in the industrial centers of the state, which have resulted in inefficient medical, surgical and hospital service to the sick. Eighth. Contracts with hospitals for the care of employees are regarded not only as a legitimate function of industry but the practice should be commended. On the other hand, all such contracts should be sufficiently liberal to insure proper care of the sick, leaving no temptations to the hospitals to sacrifice efficiency in order to prevent financial loss. Contracts for hospital service are in evidence, the terms of which appear to be too low to provide proper care of the sick, and at the same time pay the legitimate expenses of hospital service. It is a matter of common knowledge that it costs approximately $3.00 per day, per patient, to provide proper hospital care for the sick. It is, therefore, obvious that when a rate materially lower than this is charged, other sources of revenue must be provided for the hospital, else bankruptcy will ensue. Contracts may be expressed in terms different than here indicated, but the financial consideration per day, per patient, should not fall materially below this minimum schedule rate, lest suspicion of fraud shall attach. Ninth. The board is of the opinion that a hospital owned and maintained by a mining, manufacturing or railroad corporation should confine its service to the officers and employees of that company and the dependent members of their families. Tenth. The board begs further to point out the limitations of the situation by which we are confronted. Ordinances have been passed from time to time by the Association, which, if obeyed or enforced, would have effectively controlled contract practice. We have authority only to promulgate broad principles of ethics which point out proper standards for the government of our actions. When this has been done, we must leave it to the conscience of the individual doctor to obey and the calm and unprejudiced judgment of the county medical societies to enforce them." (Transactions, 1926.)

Immediately following the ordinance on contract practice, the following note appears: "The above ordinance, based upon the foregoing conclusions, has for its primary purpose the protection of the people of the commonwealth. Unless the standards of the ethics of the medical profession can be maintained upon the same exalted plane prevailing in other years the people at large must be the sufferers. Medical ethics is intended primarily to protect the patient from unworthy practices, ignorance and fraud, and as such should receive the endorsement of all right thinking people everywhere." (Transactions, 1926.)

To Provide for the Temporary Disability of a Member of a County Board of Censors

Be it ordained by The Medical Association of the State of Alabama:

That whenever a member of the board of censors of a county medical society in this state shall on account of sickness, absence, or other cause become temporarily disabled, or disqualified, for the performance of his duties on the board, it shall be in order for such society to elect some one of its members as a substitute for such dis-

abled, or disqualified, member to serve during the period of disability, or disqualification, of the regular member of the board.

Election of Officers by County Societies

Be it ordained by The Medical Association of the State of Alabama:

That county societies shall as soon as it can be so arranged elect officers before, or early in, December of each year, and that within ten days after such elections are held the secretaries of the county societies shall notify the State Health Officer of the elections, furnishing the names of the officers elected, their addresses, and the terms for which they have been elected.

Secretaries of County Societies to Make Monthly Report of Membership (Adopted, 1923)

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That secretaries of county societies shall make a report on the first of each month to the secretary of the Association, showing all changes that have occurred in their list of members for the preceding month.

Sec. 2. That the secretary of the Association shall prepare and furnish to secretaries of county societies blank forms on which to make said reports.

Lost Certificate of Qualification—How Provided for

Be it ordained by The Medical Association of the State of Alabama:

That when a certificate of qualification to practice medicine in this state has been lost or destroyed, it shall be the duty of the chairman of the Board of Medical Examiners, upon receipt of an affidavit certified to by a notary public that such certificate has been lost or destroyed, to provide the holder of the original certificate with a certified statement that such a certificate had been granted, said statement to have the seal of the Association stamped thereon, it being understood that such certified statement shall confer all of the rights and privileges conferred by the original certificate.

Illegal Practitioners

Be it ordained by The Medical Association of the State of Alabama:

That any physician who in violation of law engages in the practice of medicine in this state shall be deemed disreputable and unethical, and shall be denied all professional recognition by the members of this Association.

Membership in County Society Essential to Counsellorship

Be it ordained by The Medical Association of the State of Alabama:

That whenever any counsellor of this Association ceases to be a member of the medical society of the county in which he resides, his name, after such investigation by the State Board of Censors as may be necessary to establish the fact, shall be struck from the roll of the College of Counsellors, whereupon, his fellowship with this Association shall cease.

Removal of Residence

Be it ordained by The Medical Association of the State of Alabama:

Section 1. That when a member of a county society proposes to remove his residence from one county to another, he shall have the privilege of applying to the society of which he is a member for a demit, and if such society finds that such member is in good standing, it shall grant such demit. The holder of such demit shall within one year after its issuance present same to the county medical society of which he desires to become a member. After said demit has been presented to the society, it shall be referred without discussion to the county board of censors for consideration and investigation, who shall as speedily as is consistent, report to the society its recommendations. If the recommendations made by the board of censors are unanimously favorable to the person submitting the demit, he shall be declared a member of the society. If the report of the board is not unanimously favorable, the society shall then view the demit as an application for membership, and the rules of the society governing the application for membership shall obtain. (Adopted, 1924.)

Sec. 2. That failure on the part of any member of the Association to comply with this ordinance, when removing his residence from one county to another, shall result in forfeiture of his membership in this Association. (Adopted, 1925.)

Rebates for Cases Referred—Resolutions Thereon

Whereas, Persistent rumors come from different sections of the state to the effect that physicians who are members of county medical societies, and therefore of this Association, give and receive rebates for cases referred, therefore.

1. *Be it resolved,* That this Association condemns such practice as unethical and deems it degrading to the profession to permit such a spirit of commercialism to be introduced into its professional affairs.

2. *Be it further resolved,* That in any county in which such rumors of rebates gain circulation, the medical society of such county is hereby requested to institute a thorough investigation, and if the guilt of the donor or of the recipient is established such conduct should be punished in accordance with the gravity of the offense.

Remuneration for Medical Services in Aid of Health Officers

Be it ordained by The Medical Association of the State of Alabama:

That whenever an outbreak of contagious or infectious disease occurs in a county, or incorporated city or town, the control of which is authorized by law, it shall be the duty of the board of health of the county in which such outbreak occurs to confer with the county, city, or town authorities, as the case may be, for the purpose of agreeing upon the compensation to be paid for such medical services, other than those of the health officer in charge, as may be needed to suppress the outbreak.

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Miscellany

HAILS A. M. A. SESSION AS TRIBUTE TO SPIRIT OF AMERICAN MEDICINE

JOURNAL THANKS 140 INTER-AMERICAN GUESTS; SAYS REGISTRATION OF 8,238 AT MEETING WAS IN EXCESS OF ALL EXPECTATIONS

The annual session of the American Medical Association concluded last week at Atlantic City is hailed in an editorial in the June 20 issue of The Journal of the Association as "a triumph in its accomplishments, a tribute to the indomitable spirit of American medicine." The Journal says:

"With 8,238 physicians registered, the Atlantic City session exceeded all expectations. Gasoline rationing on the Eastern Seaboard, it seemed, might interfere seriously with the annual session, but fortunately the interest among the medical profession was so great that physicians poured in by every possible means of conveyance. Until 1935, registration in Atlantic City had never exceeded 5,000. In that year it was 8,409 and in 1937 it was 9,764. The registration, therefore, was particularly gratifying.

"The outstanding feature of the 1942 session was the attendance of visitors from Latin America. . . There were 140 physicians who registered from other American nations. . .

"The great convention hall in Atlantic City is obviously an attraction for any assemblage, but particularly for one like that of the American Medical Association. All the various scientific sections, the Scientific Exhibit and the Technical Exposition were housed under a single roof.

"The lower floor was occupied by the Scientific Exhibit. Hundreds of exhibitors were constantly in attendance. The booths were magnificent in a blue decorative scheme. At various times some six or eight motion picture theaters were in operation, as well as special assembly halls for lectures and demonstrations on diabetes, heart disease and infantile paralysis. All these features played, in the stage vernacular, to capacity attendance. Again and again one heard the comment that the Scientific Exhibit of the American Medical Association is the greatest postgraduate training course ever assembled anywhere in the world. Our visitors from Latin America expressed their continuous amazement and gratification at the display, and many of them participated in special exhibits on tropical disease, nutritional conditions in Latin American countries and other research projects. The Technical Exposition occupied the entire first floor of the convention hall and played likewise to capacity attendance. One exhibitor said 'I would have been more than gratified with an attendance of four thousand.'

"The House of Delegates in Atlantic City was concerned largely with problems of organization leading to improved functions of the Association, problems related to the war and medical service plans. . .

"The Woman's Auxiliary had innumerable fine meetings and had developed exceptional programs of interest to workers in that field. The Auxiliary now has more than twenty thousand members, with a large House of Delegates. Its activities spread into many fields. It is proving to be a factor of great importance in promoting public health and American medicine.

"Throughout the week the special qualities of Atlantic City for a session of this type became more and more apparent. All the great hotels were filled to capacity, and the innumerable dining halls and banquet rooms were used to the utmost."

OFFICERS OF THE ASSOCIATION

1942-1943

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VICE-PRESIDENTS

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M. E. SMITH (1944) Parrish
J. PAUL JONES (1945) Camden
J. O. MORGAN (1946) Gadsden

SECRETARY-TREASURER

DOUGLAS L. CANNON (1945) Montgomery

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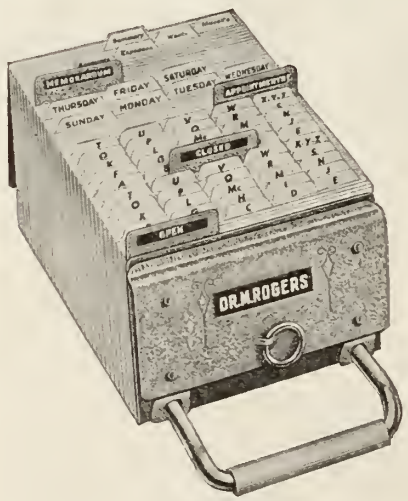
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THE MODERN CONCEPT OF TREATMENT OF COMPOUND FRACTURES*

By

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Chicago

A compound fracture constitutes one of the most serious of all emergencies. The urgent need of prompt and adequate surgical care is equivalent to that required for the treatment of acute appendicitis, a ruptured viscus, or perforation of a peptic ulcer. The result of delay in treatment of a patient suffering a compound fracture may include infection, with osteomyelitis, septicemia, prolonged invalidism, amputation and death. Two primary considerations must be kept in mind in planning the management of patients who have suffered compound fractures. The first is prevention or treatment of shock and the immediate preservation of life. The second, of almost equal importance, is the prevention of infection in the wound.

Long before the discovery of the sulfonamide drugs there were a few courageous surgeons in America who taught and practiced what we now consider to be the ideal in compound fracture management. About fourteen years ago Dr. Dean Lewis, who had left Chicago and my own alma mater, Rush Medical College, to go to Baltimore as Professor of Surgery at Johns Hopkins Medical School, delivered a lecture on fractures at the University of Chicago. One of the first statements of his address was approximately as follows:

"The competent surgeon who possesses the discipline, the surgical technique, the skill and the courage to do so can turn most compound fractures into simple fractures."

He emphasized what a few surgeons had already learned, that some contaminated wounds could be excised and infection prevented by what we have known as debridement. Debridement does not signify the mere cutting away of skin margins, as so many of our students are led to believe from inadequate descriptions of this procedure in their textbooks. It includes excision of all contaminated tissues which are not vital, such as major nerves and blood vessels. After voluminous irrigation of the wound, the skin edges may be closed without tension. Iodine, benzine or other strong antiseptics devitalize living cells and should not be poured into a wound.

For the past fourteen years, twelve of them as a member of the faculty at the University of Chicago, and the latter half of those twelve years as the surgeon in charge of the orthopedic division and responsible for all fracture cases, I have not only taught my students, my interns and my resident house officers that compound fractures could be turned into simple fractures if surgeons possessed the courage and the technique which was required of this type of surgery but I have consistently practiced what I taught. Every compound fracture which entered the hospital and which could be seen within eight hours of the time of the accident, regardless of the degree of contamination, was treated by cleansing, debriding and closure of the wound without drainage. These fractures were reduced and most of them were immobilized by plaster cast fixation, with or without metal pins placed at a safe distance from the compound wound. Metal plates were used where this

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The author is indebted to Dr. Sam W. Banks of Chicago and to Dr. Clinton L. Compere of the U. S. Army Medical Corps for assistance in the preparation of this paper.

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method of fixation offered the best immobilization. The total number of compound fractures treated was not large but the results were uniformly satisfactory. There were no cases of gas bacillus infection in the series. There were no instances of serious morbidity which opponents of this method predicted because the wounds were closed instead of being left open. Most of these cases were treated before the advent of the sulfonamide drugs. In a few instances wounds were debrided and closed as long as 24 hours after injury. In only a few instances was it necessary to remove sutures to permit drainage because sepsis had set in. In those few cases the wounds were opened widely, each recess definitely irrigated and a vaseline pack placed in the wound. None of these patients was treated by the difficult, tedious and tissue irritating method of Carrel-Dakin tube irrigation.



Fig. 1.

C. O. Roentgenograms of male aged 55 years. Compound fracture of tibia and fibula grossly contaminated with cattle manure. Cleansed, debrided, and closed without drains within four hours following injury. Healed per primum and the patient made a complete functional recovery.

Theoretical advantages of primary suture of compound fractures may be listed as follows:

1. This method, when successful, turns compound into simple fractures.
2. Both primary and secondary infection is avoided, and osteomyelitis is prevented.
3. Healing of soft tissues is complete in 10 to 12 days.
4. The scar is linear and non-adherent.
5. It decreases hospitalization.
6. The period of disability is decreased.

Dr. H. Winnett Orr of London, Nebraska, has taught the treatment of infected wounds and osteomyelitis by means of vaseline packs and complete immobilization in plaster casts. Orr has applied this method in the treatment of recent wounds such as compound fractures. Certain fractures may be so severely contaminated that it is impossible to obtain adequate cleansing, and thus change a potential infection into a clean wound. In such comparatively few instances the Orr method should be used. For all cases of infected fractures this is the treatment of choice on my service.

The following is an outline of treatment of compound fractures which arrive after infection is definitely established or too long after injury to permit of primary closure of the wound:

1. Regional or general anesthesia.
2. Continuous skeletal fixation.
3. Adequate drainage of pus, opening every recess and removing grossly necrotic tissue.
4. Removal of sequestra and foreign bodies.
5. Pack wound—sulfathiazole impregnated vaseline, paraffin or aquaphor.
6. Plaster of paris splinting.
7. Sulfathiazole or sulfadiazene (grams 4 immediately and grams 1 every four hours thereafter) by mouth.

Some of us are now faced with the certainty of having to treat thousands of cases of compound fractures created by air compression or by shell or bomb fragments. The conditions which are brought to us by combat duty or by massive bombing raids are so vastly different from those that we see in civil practice that we must stop and take stock of our methods of treatment. We now know that in modern warfare *between* 50 *and* 80 *percent of all major casualties* include at least one compound fracture. It may become impossible until days have elapsed to render more than first aid treatment to the large number who may be seriously injured during a battle or a bombing raid upon one of our cities.



Fig. 2.

E. E. Anterior-posterior and lateral roentgenograms of the tibia. Injury in November 1941 during war maneuvers of the First Army. Received 8 hours after fracture at the Evacuation Hospital, housed in tents, of the First Division. Lieut. Clinton L. Compere cleansed and debrided the wound, reduced and plated the fracture, and closed the wound without drainage. This healed per primum. More than twenty similarly compounded injuries were treated by this method by the same surgeon during these maneuvers, with the approval of his commanding officer. There was localized necrosis of contused skin of one patient and moderate drainage from one other wound but no morbidity for any patient. All other patients healed per primum. Metal plates were used for fixation because Roger Anderson or Haines pins were not available, although the latter would be the method of choice.

In the Pearl Harbor catastrophe casualties were brought, as rapidly as possible, to all of the available hospitals of Honolulu and to other emergency shelters. In most instances compound fractures and other extremity injuries were given only the most superficial attention. Abdominal and chest wounds and wounds to the head and brain were treated first. The attendants and nurses were instructed to place large amounts of sulfanilamide in the compound fractures and other wounds of the extremities, and to apply over that a sterile dressing. Many of these wounds did not receive the attention of the surgeon for three days after they were inflicted. The services of many different doctors were utilized in the treatment of these injuries. Some men were called upon to treat fractures who had had too little training and experience to be qualified to do this type of work. Some of the wounds were closed after cleansing and debriding and others were packed open with vaseline gauze. According to Abbott, debridement was not properly done in all of the cases yet there was no serious infection in the series. There were about six cases of well localized osteomyelitis.

The report of Trueta, who used the Orr vaseline pack method in all compound wounds or fractures occurring in the Republican Armies during the Civil War in Spain, was indeed encouraging. In 1073 cases there were 976 good results. The vaseline pack method is undoubtedly safer when treatment is given by a physician who has had little actual experience and training in fracture management. It is, also, undoubtedly a wise rule to require that all war wounds, which are often multiple, including compound fractures, be treated by the open method.

Additional contraindications to primary closure of compound fracture wounds may be listed as follows:

1. Wounds over 8 to 10 hours old.
2. Widely contused wounds.
3. Prevalence of gas organisms in the area, combined with definite contamination of the wound.
4. Inadequate debridement due to major vessels and nerves.
5. Tissues under tension. (May be relaxed by incision of skin at a distance from wound.)

DISCUSSION

On few medical questions has there been so sharply divided opinion as holds today in discussions of treatment of compound fractures. Many of the older surgeons have clung to the principles of treatment learned in 1918-19 in France. They still react violently toward those who favor Roger Anderson methods of reducing or fixing fractures of the long bones. Some prefer the tedious and tissue irritating Carrel-Dakin irrigations to the soothing vaseline pack for treating the infected wound. It is not surprising



Fig. 3.

O. H. Male, aged 39 years. Compound fracture of tibia and fibula. Treated at Cook County Hospital by open method. Osteomyelitis with sequestration of a segment of tibia followed. One year later, although wound was still draining, I applied tibial onlay bone grafts to the ununited tibia through a posterior incision. Union of the fracture followed, but the osteomyelitis did not heal until three years later. Today, 7½ years after the injury, this patient is disabled and psychologically unfit to work.

therefore to find a small group of eminent surgeons who determine the policy for the American College of Surgeons flatly opposing primary *closure* of the wound in compound fractures even in civil practice.

However, the method of primary closure has been used on my service fourteen years in *all* compound fractures which we have been privileged to treat within eight hours after injury without any instance of serious complication or morbidity. I am grateful to Drs. Dean Lewis, Dallas Phemister, Sumner Koch and others who pioneered in teaching and demonstrating that *with good surgical technique* the surgeon could make simple fractures of most of the compound fractures that he was called upon to treat, and thus, in the aggregate, save his patients months or years of invalidism from osteomyelitis or granulation tissue wound healing.

Bisgard and G. A. Caldwell and his associates separately have demonstrated that in experimental animals fracture wounds contaminated by pathogenic organisms, including B. Coli, Staphylococcus aureus, hemolytic streptococcus and gas bacillus, thorough cleansing, debridement, the introduction of sulfonamide drugs, and closure after reduction of the fracture will be followed by primary healing in a very high percentage of cases.

Albert Key also urges primary suture of the fracture wound, and adds, "If it does suppurate, the alert surgeon will open it in time to save it." However, as Caldwell has stated, primary closure is safe *only* when the operator is a thoroughly competent surgeon, *fully* possessed of the training and discipline required for the cleansing, and debridement of the wound, the reduction of the fracture and the most intelligent aftercare.



Fig. 4.

E. D. Aged 42 years. Compound fracture of right tibia and fibula and simple fracture of both bones of left leg on February 22, 1935. Three hours after the accident, in a hospital with which I was not familiar, I cleansed, debrided and closed the compound wound. The fracture was reduced and immobilization was maintained by means of a cast incorporating a Steinman pin through the tibia below the knee and a second pin above the ankle. The simple fracture was reduced and a cast applied. The patient was then taken to one of the Veterans' Hospitals. The surgeon there did not approve of pin fixation. He removed the Steinman pins and proceeded to open both the simple and the originally compound fractures and apply metal plates. Infection followed both operations. Draining sinuses have continued to defeat all attempts to obtain healing. Patient is severely crippled more than 7 years after injury.

The following outline of treatment of compound fractures is recommended:

EMERGENCY CARE

1. Give ¼ grain morphine sulphate, *unless there is a head injury.*
2. Pack wound with sulfanilamide.
3. Cover with sterile pressure dressing.
4. Emergency splinting.
5. Transport patient to hospital without unnecessary delay.
6. Clamp severed blood vessels.
7. Tourniquet is dangerous. May be overlooked and gangrene result.

HOSPITAL CARE

1. Treat shock. (Warm blankets, plasma, whole blood, or glucose and saline.)
2. Excision of wound in operating room.
 a. Place leg in traction on fracture table.
 b. Obtain roentgenograms.
 c. Apply skeletal traction if indicated.
 d. Scrub skin ten minutes with white soap and sterile gauze (use benzine or ether and iodine on the skin, but not in the wound, if scrubbing is not feasible.)
 e. Wash interior of wound five minutes using white soap and water; irrigate with large volumes of warm, sterile physiologic salt solution.
 f. Excise walls of wound, starting from skin and go downwards and obtain hemostasis.
 g. Ronguer away all infected bone.
 h. Remove only completely detached fragments.
 i. Reduce fracture.
 j. Pack wound with sulfanilamide.
 k. Close wound without tension if patient is seen within six to eight hours. Make parallel skin incisions to effect closure if necessary.
 l. Pack wound open with sulfanilamide—aquaphor impregnated gauze if patient is seen after eight hours or in the opinion of surgeon wound should not be closed even if excision of wound is perfected before eight hours have elapsed since injury. If there are multiple wounds (bomb fragments) or the surgeon is not experienced in compound fracture surgery, this open pack method should be compulsory.
 m. Immobilize fracture enabling patient to be ambulatory on crutches if at all possible (Roger Anderson pins are recommended.)
 n. Give tetanus antitoxin.
 o. If wound is contaminated with material from the highway or field, give gas bacillus antitoxin.
 p. Sulfathiazole or sulfadiazene should be administered in full doses by mouth.

The report of Abbott, who studied the result of treatment of 72 compound fractures in 63 patients who were wounded at Pearl

Harbor, is sufficient proof that the average physician, whether an officer of the Army, Navy or in civilian practice, does not possess the natural mechanical skill or the discipline acquired by long apprenticeship in the treatment of fractures to be able to render the best care to the fracture victim. There were six infected wounds with localized osteomyelitis. The remaining wounds were healing by granulation and Abbott, also, was of the opinion that compound fractures incurred under war conditions may be most safely treated by the sulfonamides and open pack method. With this opinion Wilson, after more than a year of observing treatment of war wounded in England, is in agreement. Healing is delayed and osteomyelitis is more common than when the primary closure technique is properly carried out. But with every available physician pressed into service following a mass catastrophe the incidence of sepsis and deaths would undoubtedly be higher if primary closure were substituted for the open pack method.

CONCLUSIONS

1. The well trained, competent fracture surgeon can and should cleanse, debride and close all wounds of compound fractures seen within eight hours in civilian practice.

2. War wounds or wounds treated by physicians who have not had the advantages of wide training in surgical technique, in the principles of thorough cleansing and debridement of contaminated wounds, and the discipline needed in the management of major fractures, should be washed, cleansed with warm normal saline, debrided as well as possible under the circumstances, packed with sulfanilamide and vaseline or aquafor gauze and then transported as soon as possible to a medical center for further treatment of the fracture itself. Sulfathiazole or sulfadiazene, grams four by mouth, should be given as soon as possible after the injury and grams 1 four times daily for four days thereafter.

3. It would be well for all of us to remember that progress in methods of treatment of fractures of all kinds has been made during the past two decades. Some of the principles of both simple and compound fracture surgery that were acceptable in 1918 are as out of date today as are the weapons of war that were used by our first A. E. F. in France. We should be prepared to give our patients the highest type of medical and surgical care, or to refer them to those colleagues who are trained to render specialized treatment for difficult or compound fractures.

4. From the clinics and the laboratories we have received the directions for the care of the compound fracture patient. Two acceptable plans of management have been outlined: (1) primary closure and (2) the open pack methods. Each must be preceded by thorough cleansing and *real debridement.* Each should be attended by accurate reduction of the fracture, and the best possible fixation of the reduced fragments while preserving, whenever possible, ambulation for the patient. The indications for each of the two methods have been discussed and outlined.

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Rales in Diagnosis—The assumption that rales in the upper lobes must be considered tuberculous, and those confined to the lower lobes nontuberculous, should be entirely disregarded since tuberculous involvement of the basal portions of lungs is not as infrequent as has been thought in the past. In addition, this erroneous postulation of some of the earlier writers can be dispelled by the observation that *any* disease affecting the upper lobes and causing congestion or the outpouring of fluid, can cause rales over that area.

It is common experience in tuberculosis follow-up clinics to find a persistence of rales in arrested and apparently cured cases. These rales range from the fine to the large or coarse moist variety. Where there has been a long-standing collapse of the lung, caused by pneumothorax, and eventual re-expansion, the profusion of rales is even greater. It is infrequent to find a satisfactory post thoracoplasty case, even years after the operation, in which rales cannot be elicited. The ability therefore to determine tuberculous activity, or the degree of activity, entirely on the basis of rales, is purely fictitious.—*Thompson and Herman, Texas State J. Med., August '42.*

SOME COMMON ERRORS IN THE TREATMENT OF HYPERTENSION*

By
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Next to colds and constipation, high blood pressure is, perhaps, more frequent than any other condition we are called upon to treat. It is recognized now, of course, that there are many different types of high blood pressure, due to entirely different causes and, in each instance, an effort should be made to determine the etiology of the particular case. The treatment, for instance, of paroxysmal hypertension due to an adrenal tumor would be entirely different from that of hypertension associated with hyperthyroidism. We should recognize that elevated blood pressure is a symptom, not a disease, and, if possible, should always ferret out the cause. In many instances this is not possible, despite the recent suggestive work of Goldblatt and others on the role played by renal ischemia in its production.

The type of hypertension we most frequently encounter is the so-called essential hypertension, the very name of which indicates that we do not know its etiology, and it is this type with which this paper is concerned. In these cases there is usually no discoverable renal disease or other organic pathology until late in the course of the malady. There is often present a strong hereditary factor and frequently a definite emotional or psychogenic element. The individual is likely to be a very active, sthenic, aggressive type of person, a hard worker who does not know how to relax. He may be able to play, but his play is often as strenuous as his work, and, probably, equally as harmful. Of course, thin, undernourished individuals are frequently victims of the disease, but the driving extroverts predominate.

In the beginning of the trouble arteriolar spasm is the essential pathologic condition. At first this is temporary, and if it were found and proper treatment instituted, it might be reversible and permanently relieved, but, usually, by the time symptoms become manifest and the patient sees the doctor the process has become irreversible and there is little we can do except try to ameliorate symptoms and retard its progress as much as possible. The disastrous effects of continued hypertension on all the body, especially the heart, brain, and kidneys, are too well known to call for comment here.

The cure of this condition, could it be accomplished, would be a greater boon to humanity than that of cancer because of the vaster greater prevalence of hypertension, but, unfortunately, in the present state of our knowledge this is not possible. We accomplish a great deal if we retard its progress and give symptomatic relief, which we can often do fairly well. In doing this, however, it seems to me that we too frequently inflict unnecessary hardships on our patients through a misunderstanding of some essential facts. It is not with the detailed management of the disease but with what seem to me to be some of the errors of our treatment that I wish to deal.

The first and by far the most grievous mistake that we make is in our psychologic handling of the hypertensive patient. He is often nervous, apprehensive, and uneasy when he comes to us, we take his pressure, and, after only one reading, tell him bluntly what it is. It is, perhaps, much higher than it would be a little later after he has become accustomed to the doctor but he never recovers from the shock of the initial discovery. Sometimes I think the world would be better off if the sphygmomanometer had never been devised for it has certainly not been an unmixed blessing. The blood pressure should be taken several times and the mean of these regarded as the true pressure. One frequently sees a difference of much as 50 mm. between the systolic readings on the first and last days of examination, after the patient has recovered to a considerable extent from his uneasiness and, often, actual fright. The last day's pressure is a much more accurate reflection of the patient's actual tension than the first day's reading.

If possible, I do not tell the patients their blood pressure. There are many who demand to know but the majority are satisfied to leave it to the physician after he explains to them his reasons for not telling them the exact figure. When it is made clear that the pressure is variable, fluctuating from hour to hour and day to day, that 170 today against 160 several days ago is of no prognostic significance and is no cause for alarm,

*Read before the Association in annual session, Montgomery, April 22, 1942.

I find that the great majority are willing to leave the figures to their doctor and trust him as to the progress they are making. This attitude certainly tends to a much happier state of mind, for I know of no more pathetic or unhappy person than the unfortunate man or woman whose days are made glad or miserable by a few points variation in blood pressure reading. Such patients live by the sphygmomanometer and there is much lamentation over a rise of even 5 mm. though this is without significance. Not only should we not tell patients their pressure readings but we should take the pressure much less frequently than is commonly done. One sees patients whose pressure is taken daily or every few days and who wait, with bated breath, for the fateful figure. This is a great mistake. Unless there is some special reason the pressure should not be taken oftener than every three or four months and every effort should be made to get the individual's mind off the actual degree of the tension. Try to impress upon him that his general condition is much more important than the exact sphygmomanometer figure and get him to trust you as to the state of his disease. This might not prolong any lives but will certainly add much to the peace of mind and happiness of many a hypertensive individual. "As far as possible the patient's interest should be shifted from blood pressure readings to cultivation of intelligent habits of living." Too often diet and drugs are given with no attempt to teach the value of hygienic living, repose, relaxation and moderation in all things.

The next most common error, perhaps, is in the field of diet, which all too often is unwisely and unnecessarily restricted. Thirty years ago when I started practicing emphasis was almost entirely on protein restriction. Nothing was known then of vitamins and diets were almost entirely carbohydrate in nature. I recall several beautiful cases of pellagra that developed in patients whom I had placed on these protein poor, high carbohydrate rations. At that time it was felt that albuminuria was due primarily to the ingestion of protein and the consequent strain on the kidneys through which the protein was eliminated. It was not known then, that, even if no protein were ingested, the body would utilize its own musculature with the same strain on the kidneys, nor was the necessity realized of the need for protein as a replacement for the albumin lost in the urine. Since that time much work has proven the great need of sufficient protein, so that now it is recognized that, even in the presence of actual kidney damage, as much as 0.6 gm. of protein per kilogram of body weight should be included in the diet. If sufficient protein is given there is not likely to develop the disturbed albumin-globulin ratio of the serum, anemia and nutritional edema are greatly lessened, the patients do not become so weak and their general feeling of well-being is retained much longer than on the exclusive carbohydrate ration. Notwithstanding this, one still sees many patients who have been advised to leave off all protein. Even in the presence of considerable kidney damage, one egg and one good helping of lean meat a day are not only allowable but advisable.

In recent years, for some reason I do not understand, many people have been advised to restrict materially or stop entirely the use of sugar. There seems to have developed a rather widespread belief that sugar is harmful in hypertension; so much so that many patients seen in the last few years express great surprise on being allowed sugar in their menus. Many of them may, perhaps, have this condition confused with diabetes, but, to a certain extent, the same feeling is prevalent among the profession. I know of nothing to indicate that carbohydrate has any harmful effect on the kidneys and the only reason for restricting its use would seem to me that of reducing calories in an individual who is disposed to be obese. The moderate use of sugar is not harmful in hypertension. In fact, in this condition, the amount eaten is of more importance than the kind of food eaten, overeating being the chief sin. With the exception of certain condiments, rich and highly seasoned foods, no dietary restrictions are necessary except as to quantity. Most of these patients are overweight, so that there should often be a restriction of calories, but a normal, balanced diet is essential. One or two cups of coffee are permissible in people who are accustomed to it and a moderate amount of wine or even a drink of whiskey every day is probably not harmful. The less we have to interfere with the normal lives of people the better it is for their morale, so we should remember that useless dietary restrictions are unnecessary or unwise. Overeating, as al-

ready stated, is the worst dietary fault. The treatment of this trouble will have to last over many years, so as liberal, well-balanced diet as possible should always be provided.

Perhaps the next most common error is our reliance on drugs to the exclusion of hygienic living. The pressure is influenced by many factors and nearly every time a new drug is given there is likely to be a temporary drop. This is more often due to psychologic factors, faith in the new drug, hope of relief from the change in therapy, but so prone are we to fallacious post hoc propter hoc reasoning that we are inclined to regard the lowered tension as due to the new remedy. Thus a great many drugs have come to be regarded as of value in the treatment of hypertension, but very few of them actually stand the test of time. Ayman and his collaborators in Boston and others, too, have shown that the administration of any new thing, even hydrochloric acid or other simple placebo, is likely to be followed by a temporary drop in pressure, which is psychologic and not due to the drug at all. Thus the nitrites, the xanthines, extract of watermelon seed, garlic and various other chemicals are held in high regard as pressure reducers. The nitrites may lower pressure temporarily but they are of value only in emergencies; the xanthines may be vasodilators in the experimental laboratory but in clinical practice I must confess that I see no value from them at all. There are many combinations of phenobarbital with theobromine, theophyllin, extract of watermelon seed, and other things, but I am firmly of the opinion that any good they accomplish is due almost entirely to the relaxing sedative effect of the phenobarbital and not to the supposed pressure reducing effect of the other medication. Mild sedatives are the most important drugs we can use in the maladies under discussion and they help by relaxing nerve tension, permitting sleep, and soothing the disturbed emotional states so prevalent in many of these cases. As far as the actual reduction of pressure is concerned, the cyanates, especially potassium thiocyanate, are most potent. In the great majority of cases this group of drugs will actually lower pressure decidedly and keep it down, but, unfortunately, there is considerable danger accompanying their use and it is not safe to administer them unless the blood cyanate level can be studied at frequent intervals. Severe skin rashes, extreme weakness, headache and mental symptoms are the complications and they may be severe. In a great majority of instances mild sedatives are the safest and best drugs to use, and, often, the only ones needed.

One often sees patients who have been told that the high blood pressure probably came from infected tonsils or teeth and would disappear if the infection were removed. I have never seen a case in which I thought there was the slightest connection between the pressure and any foci of infection that might be present and it is a great mistake to intimate to patients that such a relationship exists. If any infection in a hypertensive patient is to be eradicated let it be done for other reasons, not for any possible effect on the hypertension for both doctor and patient will be disappointed if they expect the pressure to be lowered thereby. In fact, for ten years I have been becoming increasingly dubious over the results obtained by the ruthless extirpation of foci. I am much more lukewarm in my belief in the theory of focal infection than I was a few years ago.

The pressure, at first anyhow, should always be taken in both arms instead of in only one, as is commonly done, for in this way a mistake in diagnosis may be prevented. A case, apparently, of essential hypertension may prove to be "aneurysm, a cervical rib, aortitis, or a cerebral lesion with trophic disturbance" if this precaution is taken.

Drug therapy and restriction of diet occupy too much place in our treatment for we do not pay enough attention to the proper hygienic lives of these patients. We should try as much as possible to teach the value of sufficient rest, of repose, and of a calm, orderly life. Try to teach patients that moderation and deliberation should be their guiding mottoes. Above all be tactful, reassuring, and cheering in all contacts with these sufferers.

In conclusion, I have presented nothing new nor have I tried to go into details as to the treatment of hypertension. I have merely endeavored to call attention to some of the prevalent errors, as I see them, of the usual treatment of this distressing malady, errors which, if avoided, would render life much less irksome to hypertensives and al-

low them to lead more pleasant, normal lives than they do under our usual methods of management.

WOUND HEALING AND THE CLOSURE OF WOUNDS*

By

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Fifty years ago, the beginning of the Halstead era, there was much interest and thought given to the treatment of wounds. Unfortunately, this interest died down and wounds became a routine. The interest returned during the first World War, only later to take another slump. Fortunately, during 1937, '38, '39, '40 and '41 the interest in wounds, particularly the traumatic wound, has been revived and the surgical literature for the past five years contains numerous splendid articles by Mont R. Reid,[1] Sumner L. Koch, Michael Mason,[2] Allen O. Whipple,[3] W. D. Thompson, I. S. Ravdin,[4] Thos. E. Jones[5] and others. Regarding suture materials much experimental evidence has been brought forth as to the effect of ligatures and sutures on wound healing and the reaction of the tissues to various types and sizes of suture materials.

To successfully care for a wound, either traumatic or incised (the latter unfortunately is often traumatic), it is essential for the surgeon to understand and appreciate the fundamental principles of wound healing. Too often he has this knowledge but lacks the surgical philosophy and patience necessary to obtain the best results. The good results of modern surgery would be impossible without good healing of the wound. To quote Mont R. Reid: "For more than half a century we have been told that anesthesia, the control of hemorrhage and the control of infection have been responsible for the memorable progress of surgery. Yet we are well aware that in the life of a surgeon the primary role of infection is a complication of the processes of wound healing. Even though this complication may at times be serious, tragic, or even fatal, yet the fundamental processes of wound healing remain the same whether a wound heals by first, second, third, or any other intention."[1] So we would substitute for the control of infection a better knowledge of wound healing.

NECROTIC TISSUE

Ambrose Pare', 400 years ago, proved that healthy tissue tended to grow and heal spontaneously. He knew nothing of bacteria but he knew that foreign bodies and necrotic tissue interfered with normal wound healing. It was not until the last World War, however, that his views prompted the one big surgical idea resulting from the war and that was debridement or excision of the traumatized and devitalized wound. (I might say, however, that 45 years ago my younger brother was bitten by a rabid dog. It was a ragged wound and Dr. George S. Brown, the surgeon, completely excised it.)

Since Pare''s time we have learned about bacteria and the complications of infection and its consequences but it has been definitely proven that the healthy wound, in the absence of necrotic tissue and foreign bodies and with a good blood supply, can withstand considerable bacterial contamination. But the wound with devitalized tissue, blood clot, and foreign bodies cannot stand the least contamination and there will be bacterial invasion and delayed healing. This has not only been proven experimentally by Halstead and others but has been observed clinically by all of us. I do not wish to give the impression that I am minimizing the evils of bacteria but to emphasize the fact that wound healing is a natural cellular growth and if the wound is not handicapped by necrotic tissue, foreign bodies, strangulating ligatures, blood clots, etc., it will heal spontaneously, and that the use of antiseptic or germicidal solutions in the wound not only do not destroy all the infecting organisms but actually do harm,

*Read before the Association in annual session, Montgomery, April 22, 1942.

1. Reid, Mont R.: The Study of Wound Healing, Ann. Surg. 105: 982 (June) '37.

2. Koch, Sumner L., & Mason, Michael L.: Infections of the Hand. Injuries to Nerves and Tendons of the Hand, J. A. M. A. 116: 1365 and 1375 (March 29) '41.

3. Whipple, Allen O.: The Essential Principles in Clean Wound Healing, Surg., Gynec. & Obstet. 70: 257 (Feb. 15) '40.

4. Thompson, W. D., & Ravdin, I. S.: Arch. Surg. 1938, 36: 500; 1938, 36: 509.

5. Jones, Thomas E.; Newell, Edward T., Jr., & Brubaker, Robert E.: The Use of Alloy Steel Wire in the Closure of Abdominal Wounds, Surg., Gynec. & Obst. 72: 1056 (June) '41.

producing tissue damage, thus favoring bacterial invasion and delaying healing.

REST

It has been well observed the value of rest to the traumatized limb. This was first emphasized by Baron Larry and Billroth and more recently by Orr and Koch. We well know that rest lessens wound reaction, the spread of infection, and increases the comfort of the patient. In compound fractures the good results are as much due to the immobilization of the part as they are to the care of the wound.

BLOOD SUPPLY

We know also the importance of preserving a good blood supply. We have noted the poor healing of leg ulcers and the healing of these ulcers after improvement in blood supply. We have seen the poor healing, the necrosis, gangrene, and secondary infection resulting from peripheral vascular disease, and the sloughing of the wound edges of widely undermined skin flaps with poor blood supply.

Granulation tissue is the normal sequence of trauma and plays a definite and important role in wound healing. It must be regarded as a normal defense, a barrier set up to ward off bacterial offense. Except in certain instances, I know of no greater insult to a wound than for the surgeon to cauterize, curette, or to trim healthy granulation tissues.

AVITAMINOSIS AND HYPOPROTEINEMIA

It has been definitely shown by Holman,[6] Ravdin[4] and others that avitaminosis and hypoproteinemia delay wound healing by slowing the process of fibroplasia. Experiments and observations indicate that surgical patients preparing for operation should for ten to fourteen days partake of a high caloric diet, high in proteins and vitamins, particularly vitamins A, C and B; also vitamin K and bile salts if there is jaundice. In emergency operations the parenteral administration of the vitamins is indicated for the avitaminosis; blood and plasma for the anemia and hypoproteinemia; and glucose for its general nutritional and fluid value.

6. Holman, Emile: Vitamin and Protein Factors in Preoperative and Postoperative Care of the Surgical Patient, Surg., Gynec. & Obst. 70: 261 (February) '40.

INFECTION

It is most essential to have a conception of the difference between bacterial contamination and bacterial invasion of a traumatic wound. The former is a surface involvement and the latter an invasive process. Fresh wounds, surgical or traumatic, are never absolutely free of bacteria and their sterilization is only relative.

CHEMOTHERAPY

Though I have stressed the fact that germicidal solutions produce necrosis and increase the opportunity for bacterial invasion, the sulfonamide group of drugs does add a most valuable adjunct to the management of the grossly contaminated wound. The sulfonamides used locally and internally have proven to be of inestimable value. However, they should be used and regarded only as valuable adjuncts to the treatment and not a crutch to lean on.

Good surgery and open surgical drainage of infected wounds are still and always will be paramount. Sulfanilamide without good surgery is just another drug but when used properly and as an adjunct it is most valuable. It possibly delays to a certain extent certain reparative processes in wound healing, so should possibly not be used in relatively clean-cut wounds of nerves and tendons cared for early and with little bacterial contamination. If these clean-cut wounds are properly cleansed, sulfanilamide locally is not necessary, and if used may interfere with the healing of the sutured nerve and tendon. Its greatest value will probably be from its use in the badly traumatized wound, grossly infected, that cannot be given immediate care or satisfactory debridement, such as the war wound.

Now that the war is once more upon us the traumatic wound deserves the greatest consideration and taxes the mind, skill, and ingenuity of the most skilled surgeon. The most trivial wound deserves the greatest of care. There is no such thing as a minor wound; they all have major possibilities, and the principles of wound healing that we have discussed must be carried out in so far as possible in every case. Surgeons are prone at times to be inconsistent. It is not understood why a doctor will change his clothes, mask, scrub, don gown and gloves and use every precaution when doing some trivial operation such as the excision of a small lipoma or sebaceous cyst, using every pre-

caution to promote good healing and to prevent infection; and then when he has a traumatic wound to care for, a wound that is already bruised and devitalized with bacterial contamination already present, remove only his coat, roll up his sleeves, wash his hands a little, wear no gloves, wear no mask, blow into the wound a million hemolytic streptococci, and then pour brown or red paint into the wound to further devitalize it. He may care for it in his office or the home not even using sterile towels about the field. The only answer is that if the elective wound heals badly he has to take the blame. If the traumatic wound does badly he can blame the result on the cruel little bugs that were introduced into the wound at the time of the accident (he probably put in more later himself) and that it became infected in spite of the iodine (that promoted cellular destruction and encouraged bacterial growth) he put in the wound.

CARE OF THE WOUND

As to the treatment of the traumatic wound itself, I would like to refer to the most excellent work and study of the subject by Drs. Mont R. Reid[7] of Cincinnati, and Sumner L. Koch and Michael L. Mason[2] of Chicago. Their methods of taking care of these wounds are almost identical, the only difference being that after the preliminary cleansing of the skin with soap and water Reid uses a germicidal solution on the skin and Koch and Mason do not. Also, Koch and Mason[2] wash the wound with soap and water and irrigate with saline before debridement, whereas Reid completely excises the wound before irrigating with saline. This is probably due to the fact that Koch and Mason in their practice were particularly interested in wounds of tendons and nerves, and of course this precludes extensive debridement.

In any given wound, until it can be properly cared for, the best primary dressing is simply a sterile gauze dressing applied with sufficient pressure to control bleeding. If bleeding is profuse it should of course be immediately controlled. This primary dressing should be left in place until you are ready for the repair. During this time the patient's general condition can be checked and adequate measures instituted to combat the shock and hemorrhage, if present. After shock and hemorrhage have been combated and the operating room has been made ready, then the primary dressing may be removed. The surgeon should be masked, gowned and gloved as in a major operation. The wound should be packed with dry gauze, and then the skin field carefully scrubbed with soap and water, being careful not to let any of the water get into the wound. Then the skin may be painted with alcohol, or one of the milder skin germicides, being careful not to let any of the solution flow into the wound. If the wound is small and does not require extensive debridement it may be blocked exteriorly by novocain. After the blocking the gauze pack is removed and the wound proper is scrubbed for ten minutes with soap and sterile water, using cotton instead of gauze and then irrigated with normal saline solution. After the wound has been thoroughly cleansed the operative field should be redraped, the surgeon should change his gloves, if he did the scrubbing, and then proceed with the debridement. After all devitalized tissue, foreign bodies, etc., have been removed the wound should be thoroughly irrigated again and if sufficient time has not elapsed for bacterial invasion to occur and the debridement was satisfactory then the wound can be closed. Before the closure the wound should be redraped again and fresh instruments and fresh gloves used.

Some surgeons, Mont R. Reid,[7] for instance, pack the wound with sterile gauze, then after thoroughly cleansing the skin and an extensive blocking of novocain, if a general anesthetic is not given, excise the wound and its pack in one piece without cutting into the original wound. After the complete wound has been excised, the fresh wound which has not been contaminated is thoroughly irrigated with saline and the bleeding points controlled and after redraping and changing gloves the wound is closed.

In wounds badly traumatized and when impossible of early care, such as the wounds of battle, no attempt should be made at closure. Debridement as soon as possible, sulfanilamide locally and one of the sulfonamides internally, open surgical drainage, and fixation for rest are the treatment most apt to produce the best results.

I am not going into the subject of burns as this subject within itself is a paper but

7. Reid, Mont R., & Carter, B. Noland: The Treatment of Fresh Traumatic Wounds, Ann. Surg. 114: 4 (July) '41.

I would like to state briefly that no surgeon can always tell the exact depth of a burn and how much skin has been devitalized and for this reason I do not like to use tannic acid on any burn. Hemolytic streptococci have been found in the serum of blisters and I do not believe in sealing up necrotic tissue and bacteria even after the most energetic cleansing of the burned area. Infection will take place if there is necrotic tissue left and you will further increase the depth of the necrosis. I, therefore, am in favor of open surgical drainage in the treatment of all burns. If you are using ointment dressings such as the sulfadiazine ointment it is most essential that you use fine mesh gauze and not the coarse mesh gauze. Coarse mesh gauze does not hold the ointment and the gauze sticks to the wound and granulations grow up into the mesh.

WOUNDS OF THE FACE

I would like to say a brief word about the repair of facial injuries Since the tissues of the face have a rather marked resistance to infection, and bacterial invasion is slow to develop, it is not necessary to do extensive debridement. These wounds should be repaired as soon as possible and no matter how irregular the wound the tissue should be replaced exactly as it was beforehand. Any shifting of flaps or suturing in an abnormal position will result in an unsightly disfigurement. To prevent scarring of the skin from sutures the wound should be approximated at intervals by interrupted subcutaneous sutures and the skin closed with very light material, using fine needles; and the sutures should be removed early. Widely spaced sutures that are left in too long produce a stepladder scar that can never be corrected.

CLOSURE OF INCISIONS AND SUTURE MATERIALS

If you will allow and forgive me for being personal I think I can safely say that I have always been more interested in wound healing than in any other surgical subject. The early stimulation from Dr. Halstead during medical school days and hospital days with George Crile made a lasting impression on my mind. The glamour and thrill of their gentle and bloodless dissections, their fine ligatures and delicate needles, tying off only the bleeding points with no large bits of tissue to later necrose, the avoidance of strangulating ligatures, the accurate approximation of tissue without tension, the avoidance of rough sponging, fresh instruments, gloves, and fresh draping before closing the wounds, and salt solution irrigation of wounds instead of germicidal solutions will never be forgotten; and the influence of my father who had the gentlest touch and steadiest hand of anyone I have ever known, who could, without resting his arms, hold the points of two cambric needles together. I remember my barefoot days before iodine, mercurochrome and other red paints, when I would stub my toe and knock a nail off. He would set me on the side of the bathtub, turn on the water, stick my foot under the stream of running water and scrub the offending organ with soap. Then he would apply a simple dressing. The wound always healed without appreciable difficulty, possibly walking a little more on the heel with the toe turned up.

In the closure of surgical wounds the good results depend more on the observance of the principles of wound healing than on the type of suture material used. The incision should be incised sharply and its margins protected throughout the entire operation. Rough handling of the wound, strangulating ligatures, tying off large bits of tissue, too tight suturing, particularly with continuous sutures and cutting off blood supply, produce tissue necrosis and thus encourage bacterial invasion, infection and unfortunate sequelae, such as pain, disruption and possible evisceration, incisional hernia, scarring and disfigurement, delayed convalescence, and too often death. The surgeon who adheres to a rigid aseptic technic, who is gentle, using sharp instead of blunt dissection, who clamps with small hemostats only the bleeding points, using the lightest possible ligatures, and closes his wounds carefully with accurate approximation but without tension will uniformly get good wound healing.

The ideal suture material is one that lends itself to sterilization, has the proper tensile strength, and at the same time produces the least tissue reaction, and that will maintain apposition of wound surface until fibroplasia has taken place and the wound solidly heals.

We have in general two types of suture materials: the non-absorbable, as silk, cot-

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ton,[8] alloy steel and silver wire; and the so-called absorbable suture, catgut. This latter is not absorbable but is a foreign body and is not absorbed as catgut. It is broken down by tissue reaction and leukocytic infiltration and the end products are either absorbed or discharged from the wound in the form of a serous exudate. Microscopic sections of wounds show about each suture a definite tissue reaction or miniature or microscopic abscess. The reaction varies directly with the size of the suture used and the amount of tension; the smaller the suture the less the reaction. It has also been definitely shown experimentally that catgut produces a much greater reaction than the non-absorbable suture and the larger the catgut the greater the reaction. We have all noted in the abdominal wounds we have seen disrupted that often no catgut is left and at each suture mark there is a small, soft necrotic area. It seems that, contrary to general belief, the larger the gut the quicker it is broken down. I have sutured the vaginal mucosa following perineorrhaphies with catgut, alternating chromic 5-0 with chromic 00 and plain 00. In a day or so there was definite tissue reaction about the larger sizes, after another two days a definite hole about the point of exit, and a few days later a break in the continuity of the sutures. The 5-0 sutures produced no irritation, were not broken down, and were later removed. One might say that they did not break down because of the small size but that they were better chromicized. This may be partially true but it is my opinion that they remained because they produced much less tissue reaction.

From this discussion you are aware of the fact that I personally prefer silk, cotton, and the alloy steel wire to catgut. I do, but at the same time advocate a gentle sharp technic, the lightest possible ligatures and sutures, and the use of the interrupted stitch whenever possible. However, if you are going to maul your tissues, use large hemostats, and heavy continuous sutures, you had best stick to catgut.

Personally, I have used but little cotton because silk seems to feel better to work with. Cotton has been strongly advocated by Ochsner[8] and his associates, and others, and it is undoubtedly fine suture material. I have known some surgeons who have stated they had very poor results with silk but I am quite sure you will find that the silk they used was not fine enough. I do think for an intestinal mucosal suture that fine chromic catgut, the 5-0, is much to be preferred to silk. In this location it produces definitely less tissue reaction, less edema, and does not slough out and extrude.

The steel alloy wire suture first popularized by Babcock was first called to my attention by Thos. E. Jones[5] of Cleveland. He has definitely shown that by its use the incidence of wound infection and wound disruption at the Cleveland Clinic, particularly in the closure of incisions following the one stage abdominoperineal resection of the rectum for cancer, has been reduced almost to nil. The following statistics are reported by Jones[5] and his associates.

You will see that of 193 consecutive cases of operations on the biliary tract there were 54 cases in which catgut alone was used with 6 disruptions; catgut to peritoneum and alloy steel wire to fascia in 58 cases with 4 disruptions; with alloy steel wire alone, using the vertical figure-of-eight suture through fascia, muscle and peritoneum, one disruption in 81 cases. In the abdominoperineal resection closures there were no disruptions and only one mild infection in 116 cases, and Jones brings his colostomy out through the upper end of the incision. With catgut closure with stay sutures, of 76 cases there were 23 infections of varying degrees with 3 disruptions.

TABLE 1

ABDOMINAL WOUND DISRUPTION IN OPERATIONS ON THE BILIARY TRACT*

Suture Material	No. Cases	No. Disruptions	Percent
Catgut (all layers)	54	6	11.0
Catgut and alloy steel wire	58	4	6.9
Alloy steel figure-of-eight sutures, no stay sutures	81	1	1.2

Since personally observing Jones' work, seeing his wounds, and noting his statistics I have been routinely closing all upper abdominal incisions with the vertical figure-of-eight sutures of alloy steel, not using stay sutures, and closing the skin with clips. I

8. Meade, W. H., & Long, Carroll H.: Cotton as a Suture Material, J. A. M. A. 117: 2140 (Dec. 20) '41.

*Comparison of suture material in 193 consecutive cases, January 1937 to January 1940.

TABLE 2

ABDOMINAL WOUND MORBIDITY IN ONE STAGE COMBINED ABDOMINOPERINEAL RESECTIONS†

Group	Type of Closure	Infections					Disruptions	
		No. Cases	Slight	Moderate	Severe	Percent	No. Cases	Percent
I	Catgut in layers with stay sutures	76	3	17	3	27.5	3	3.9
II	Catgut and alloy steel. No stay sutures	64	0	7	2	14.0	0	0.0
III	Alloy steel figure-of-eight sutures. No stay sutures	116	0	1	0	0.85	0	0.0

also use this form of closure in lower abdominal incisions, particularly the drainage of pelvic abscesses, the abdominoperineal resections for cancer, and after operations for intestinal obstruction.

CONCLUSIONS

In conclusion I would like to summarize as follows:

1. Wound healing is a normal, natural process. The healthy wound, free of necrotic tissues, can withstand considerable bacterial contamination.

2. The use of a germicidal solution in the wound is detrimental to wound healing.

3. A careful technic, scrubbing for at least 10 minutes with soap and water, a thorough debridement if necessary, and thorough irrigation with saline solution, gives the traumatic wound the best opportunity to heal spontaneously.

4. The use of sulfanilamide powder in contaminated wounds has proven to be of great value.

5. Rest favors wound healing and lessens the spread of infection.

6. Proper attention should be given to the control of avitaminosis and hypoproteinemia by use of vitamins, blood and blood plasma.

7. I prefer open surgical drainage in the treatment of burns. Tannic acid is a closed method of treatment.

8. Fine sutures are less apt to delay wound healing than the heavier sutures. Fine silk, cotton, and alloy steel wire promote less tissue reaction than catgut and wound healing is more prompt. The incidence of wound disruption is greater following the use of catgut than the non-absorbable sutures.

9. Chromic catgut 5-0 is an ideal suture material for a gastric or intestinal mucosal stitch.

†A comparison of types of wound closure in 256 cases.

THE USE OF SULFONAMIDES IN ACUTE OTITIS MEDIA AND ACUTE MASTOIDITIS*

By
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I have selected this subject for my presentation because it is of great interest to each one doing otology and because it is a field requiring much clarification in the minds of most of us.

The virulence of streptococci and pneumococci varies from year to year in different localities and this undoubtedly accounts for the varying severity of otitis media and mastoiditis. I have noted in my own practice that severe mastoid seasons come approximately five years apart.

It is probable that cases recovering from infection following sulfanilamide therapy are completely susceptible to new infection with the same organisms and that a biologic resistance to infection does not develop when the infection in question is terminated by chemotherapy. I have noted this numerous times in my own practice when patients clinically well following chemotherapy have very soon developed similar infection over again.

I do not propose to discuss the toxic effects of the sulfonamides but wish to remind you that these drugs are not free from unpleasant and even dangerous results. There are many reports in the literature on the favorable effects of sulfonamide compounds in acute otitis media and mastoiditis. Likewise, report after report stresses caution in the use of these drugs and particular alertness to detect dangerous symptoms masked by their action. I see no reason to report these investigators and their specific findings by name. It is my desire to make this paper very practical and of value through its simplicity and brevity.

Chemotherapy has justified itself in otologic medical practice. However, its employment in otologic practice has given rise to serious problems, more confusing than

*Read before the Association in annual session, Montgomery, April 21, 1942.

those which arise when chemotherapy is employed in the general practice of medicine. Chemotherapy masks the true condition when employed in otologic infections. A false sense of well being may be experienced by the patient and an erroneous feeling of security may be present in the otologist. Grave complications, far advanced before detection, may present themselves to perplex and annoy the attending physician.

The physician attendant on a patient with an otogenic infection treated by chemotherapy has little to guide him as to what is transpiring at the focal point of infection. Neither the drug-controlled temperature curve nor the asymptomatic character of the local lesion nor the degree of intensity of the aural discharge is significant of much that is diagnostically valuable. The average interpretation of roentgenograms must be revised also, in the light of the therapeutic agent used. Finally, the blood count is not a hemogram of the blood's reaction to an infection per se as much as it is a picture of the blood influenced both by the infection and by the drug which the patient has been taking. The picture is not constant nor is it characteristic of the otogenic infection or its severity. So-called latent mastoiditis may and frequently does occur during sulfonamide therapy for acute otitis media and this can eventuate in complicating lesions. I am sure that we have all had cases of acute otitis media with marked mastoid symptoms to respond readily to sulfonamide therapy and give the clinical appearance of rapid complete recovery. Then as a safeguard before discharging the patient, we had a roentgenogram made and to our dismay observed marked destruction of the mastoid septa, and then to our further dismay on opening the mastoid found the dural plate eroded with the dura exposed and covered with granulations.

You have all been impressed by the tendency to apparent early healing and the sudden recrudescences which occur in association with the use of sulfonamides in the treatment of otitic infections. Again you have seen cases which appeared symptom free after a few days of chemotherapy, only to be greatly disappointed when you examined the drum and found it thick, red, and beefy with a sagging posterior-superior canal wall, definitely signifying to you the presence of trouble. Were you not to inspect the tympanic membrane in these cases you would feel confident that they were rapidly getting well.

Remember that foci of pus must be drained and areas of necrotic tissue cleaned up if you wish to relieve your patient. These essentials of successful treatment in use before the sulfonamides are just as important today. Failure of chemotherapy in acute otitis media and mastoiditis is probably due to three factors: first, inadequate concentration of the drug in the blood; second, deficiency of antibacterial antibodies; and third, which is probably the most important factor of all, the presence of a focus of undrained pus or necrotic tissue. If you are going to use chemotherapy don't neglect to remove your focus of infection first.

I have had a number of cases of otitis media, some complicated by mastoiditis, during the past few months evidently due to the influenza bacillus. As you might expect, the various sulfonamides had no beneficial effect of consequence in any of these cases. The drug did decrease the degree of leucocytosis but seemed to exert very little effect on the temperature. Five of these cases, all infants ranging in age from six to twelve months, came to bilateral mastoid surgery despite prolonged chemotherapy and frequent myringotomy.

Whether the use of sulfonamides shortens the duration of discharge in cases of acute otitis media is questionable. Some authorities say yes and some no. In my practice, I have not found a consistent shortening of the period of discharge, and by this period I mean from the onset to final cessation. Of course, with the drug there are periods of decreased or even stoppage of the discharge but these are frequently followed by exacerbations which must be counted in the overall period.

A factor of paramount importance which I fear is overlooked by many of us is the need of conserving the hearing of patients with acute middle ear infections by avoiding undue prolongation of conservative treatment. The destruction of the delicate membranes and the coordinating mechanisms of the stapedius muscle and the tensor tympani and of the ramifications of the various nerves and their terminals, all of which are apt to be harmed by the continuation of a local otitic infection, is a factor which must be borne in mind when one is

treating an acute middle ear infection which prolongs itself beyond a reasonable time. In a patient with an ordinary acute infection, who has classic symptoms and who is operated on promptly, healing takes place in the wound and resolution takes place in the tympanic cavity and the infection has not been established long enough to cause permanent and serious damage. Hence, in the majority of the patients thus operated on, the hearing is maintained. On the other hand, if a protracted course of conservative treatment and chemotherapy has been followed, when the patient finally recovers there is considerable loss of hearing.

In the past the otologic record of the management of acute disease of the middle ear has been sufficiently good and there are no statistics to show that either mortality or morbidity has been markedly reduced by the employment of sulfanilamide or any of its derivatives in the treatment of acute otitic infections in the early stages. Use of the drug should be as an adjunct to surgical treatment and not as a substitute for it.

Some general fixed plan of treatment should be established in the treatment of acute ear infections leaving a proper place for the use of chemotherapy. First, the infection should be observed to note its severity and progress. The focal infection should be eliminated when indicated and finally the sulfonamide can be administered if necessary. This seems rational and would prevent the postponement of the use of limited surgical measures until so late that extensive surgery is necessary. It would also avoid the danger of the toxicity which the use of the drug entails and, finally, it would permit the development of antibodies, the lack of which is probably one of the big reasons for the failure of chemotherapy.

As regards dosage, a few points might be mentioned. It is obvious that no set rules of administration of drugs will apply to the treatment of all patients who have varying degrees of infection, but, in general, an initial dose of thirty grains of the drug may be administered to adult persons, followed by fifteen grains every four hours. In the presence of more severe infection it might be well to administer an initial dose of sixty grains instead of thirty grains. For small children the daily dose usually can be calculated on the basis of one to one and one-half grains per pound of body weight, and a half of this total daily dose may be administered as an initial dose.

It is highly important to emphasize the fact that it is advisable to prevent exacerbations, to continue administration of the drug daily, in some such dosage as half the therapeutic dose, for from three to ten days after the temperature has returned to normal. I have found that if the drug is stopped too soon and then begun again it seems to have lost a large part of its efficacy which it sometimes never regains in this particular case for this particular condition.

I have purposely omitted from discussion the use locally of sulfonamides in simple mastoidectomy. The drug very definitely appears of value in these cases but is not yet being used in this manner to any great extent.

In closing let me emphasize briefly what I feel to be the cardinal points to be considered in the use of chemotherapy in acute otitis media and acute mastoiditis. First: Do not use chemotherapy routinely. Treat your cases as you have in the past and institute this therapy only if you are not getting satisfactory results and fear complications. Second: Do not forget that you must still drain or eliminate your focus of infection. Chemotherapy cannot be expected to do this for you. Third: If you are going to use the drug, use adequate sustained dosage over a long enough period of time. Beware of stopping the drug or reducing the dosage too soon. Fourth: Be constantly alert and on guard to insure, in so far as possible, reasonable safety against development of masked complications. Fifth: Do not forget the toxic dangers of the drug itself. Sixth: Remember that as a competent otologist it is your duty to conserve hearing. Do not drag along with chemotherapy to ultimate healing with impaired hearing in preference to surgery at the proper time with conservation of this vital function.

Retroversion—The most common cause of both transient and permanent retroversion is relaxation of the uterine supports in parturition. During pregnancy all the pelvic structures are enormously hypertrophied, and the uterine supports, because of the weight of the gravid uterus, become attenuated, the degree of attenuation usually being dependent upon their initial state of development. In most cases, when the supports are in good condition and labor proceeds normally, with a minimum of operative interference and that properly instituted, pregnancy does not cause permanent damage.—*Miller, New Orleans M. & S. J., July* '42.

THE EFFECT OF OBSTETRIC SEDATION AND ANESTHESIA ON THE NEWBORN*

By

HUGHES KENNEDY, JR., M. D., F. A. A. P.
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Most of us have seen babies at birth who seemed to have great difficulty in establishing regular respiratory movements. Some have died within an hour or so while others have lived for a day or longer, struggling with a grunting respiration. A complete autopsy would fail to reveal any cause for the death and our tentative diagnosis of cerebral hemorrhage would be changed to atelectasis or a thymic death. This would satisfy the family and the Bureau of Vital Statistics but would be very unsatisfactory to the pathologist as well as to the clinician.

In recent years a closer study of asphyxia in the newborn has begun to shed much light on these cases. Snyder and Rosenfeld[1] have shown beyond much doubt that regular respiratory excursions occur during the latter third of pregnancy. Although the fetus is still dependent on the mother for its oxygen, these regular respiratory movements occur with amniotic fluid being drawn into the respiratory passages instead of air. If this opinion be true, then the newborn baby should breathe immediately following delivery. Indeed, the modern conception is that there is something profoundly wrong with the newborn that does not breathe within thirty seconds following birth.

Yant[2] and his coworkers have shown that one minute of complete oxygen deprivation may be sufficient to cause death of nerve cells. In the light of this knowledge, asphyxia becomes a serious problem. Courville[3] has shown extensive areas of "devastation necrosis" in brains of infants dying a few days after severe asphyxia. The question naturally arises, "Do all of these babies die? What happens to the babies that do not die?"

Schreiber[4] has provoked much discussion by attempting to show a definite relationship between epilepsy, spasticity, psychopathic personality and lesser degrees of mental inferiority and asphyxia of the newborn.

When asphyxia neonatorum is mentioned, we think of a baby that does not breathe satisfactorily following delivery. (Asphyxia livida and pallida will not be differentiated.) However, we must not lose sight of a possible intra-uterine asphyxia, or maybe it would be wiser to call it an intra-uterine anoxia, both terms meaning a diminution of oxygen available to the tissues. Depending on the degree of anoxia, the tissue reaction is congestion, then edema followed by petechial hemorrhages and death of cells. Gross bleeding may occur if the asphyxia is severe. While the nerve cells are the most easily affected, the above pathologic reactions may occur in other parts of the body, notably in the lungs. Atelectasis may be the result of edema of the lungs following intra-uterine anoxia.

Accepting the above statements as facts, with the possible exception of Schreiber's contribution (and he has much to support his views), more attention must be paid to the treatment of the mother during the early stages of labor. The average expectant mother has been told by her friends that her doctor will see to it that she has no pain. She demands relief. If, after much effort at resuscitation, the baby begins breathing normally, the physician is satisfied. Later neurologic pathology is diagnosed as idiopathic or inherited. If, on the other hand, the baby fails to breathe properly and dies, it is considered an unavoidable death. But was it unavoidable?

Let it be said at this time that it is not the purpose of this paper to criticize the obstetrician or to deny to the expectant mother some relief. But rather it is hoped that by analyzing the problems involved, the mother can be spared much of her discomfort without injury to the baby.

While this presentation is primarily interested in sedation and anesthesia, it is readily admitted that asphyxia neonatorum was well known before sedation was popularized; and there are numerous other

*Read before the Association in annual session, Montgomery, April 22, 1942.

1. Snyder, F. F., and Rosenfeld, Morris: Intra-uterine Respiratory Movements of the Human Fetus, J. A. M. A. 108: 1946 (June 5) 1937.

2. Yant, W. P.; Chornyak, John; Schrenk, H. H.; Patty, F. A., and Sayres, R. R.: Pub. Health Bull. 211, Aug. 1934.

3. Courville, C. B.: Asphyxia as a Consequence of Nitrous Oxide Anesthesia, Medicine 15: 129 (May) 1936.

4. Schreiber, Frederic: Apnea of the Newborn and Associated Cerebral Injury, J. A. M. A. 111: 1263 (Oct. 1) 1938.

causes, such as prematurity, age, parity and health of the mother, accidents of labor, various forms of dystocia, duration of labor and particularly operative delivery.

However, when these numerous factors are eliminated, there are certain cases of asphyxia that must be attributed to sedation. Morphine and pantopon are probably the chief offenders. Clifford[5] states that in a study of normal infants the only deaths encountered were two in a series of seventy-five given pantopon. (Table 1.) When morphine was given within four hours of premature deliveries the expected mortality

TABLE 1
EMBRACING 410 CASES

	Morphine Pantopon	*Barbiturate*
Complete maternal amnesia	34%	78%
Deaths (out of 75 pantopon)	2%	0%
Artificial resuscitation	23%	3%
Infants physiologically normal at birth	43%	63%
Relation in time	Yes	No
Relation to dose	Yes	No

Dosage—one dose: morphine gr. ¼ or pantopon gr. 1/3.

was doubled. In normal babies 23% required vigorous resuscitation. The effects were proportional to the amounts and time of the drug. Furthermore, only 34% of the mothers had complete amnesia. As a result the Boston Lying-In Hospital does not use any opium derivative. Clifford states that over a five-year period in which ten thousand mothers received a barbiturate instead of opium, the rates of asphyxia and stillbirths were lower than in the preceding five years and concludes that the barbiturates, regardless of size of dose, exert no harmful effect on the fetus or the newborn. Seventy eight (78) per cent of these mothers had complete amnesia. He admits, however, that the baby is sleepy and relaxed and may not cry for five minutes. The baby may gasp soon but is slow to develop regular breathing. While the symptoms may appear alarming, he states that they are not serious but merely are the price that must be paid for analgesia. Since his cases also received scopolamine, rectal ether and nitrous oxide-oxygen, they must be considered as affecting the baby as well as the barbiturates. While Clifford states that the barbiturates have no ill effect on the fetus or the newborn, other observers do not agree. Cole[6] and his coworkers state that sedatives in any amount definitely increase the incidence of asphyxia in direct proportion to the amount given. (Table 2.)

TABLE 2

	No. of Cases	*Still-Born*	*Severe Asphyxia*
No Sedative	631	1.9	3.0
Received Morphine:			
Within 4 hrs.	81	6.2	34.6
More than 4 hrs.	147	0	17.7

	Mild Asphyxia	*Spontaneous Delayed*	*Immed.*
No Sedative	3.2	3.8	88.1
Received Morphine:			
Within 4 hrs.	7.0	12.3	38.3
More than 4 hrs.	8.8	15.6	57.8

The same is true of general anesthesia. Henderson[7] and his associates make the same statement. Schreiber[8] writes: "It appears that analgesics given in greater than the pharmacologic dosage may in many instances be the causative factor of fetal anoxemia with resulant cerebral damage in the infant." He further states that some of the postpartum psychoses may be due to maternal anoxemia.

Kamperman,[7] in discussing Henderson's paper, summarizes as follows: "I think the middle of the road in analgesia is still the proper thing. I think we should train our patients not to expect a painless labor. We should not tell them that we will meet them at the front door with an analgesic. They should expect to go through part of the labor before analgesia is given. . . If we delay giving analgesia until dilatation of the cervix has well started, then usually one dose will carry the patient through the remaining labor. The amount that is given is exceedingly important."

It might be mentioned here that in some cases the uterine contractions may be severe enough to impair the placental circulation to the point of fetal anoxemia. This may be relieved by analgesia. It is general-

5. Clifford, Stewart H.: The Effect of Analgesia and Anesthesia Upon the Newborn Infant, J. Med. 17: 612 (Feb.) 1937.

6. Cole, W. C. C.; Kimball, David C., and Daniels, L. E.: Etiologic Factors in Neonatal Asphyxia, J. A. M. A. 113: 2038 (Dec. 2) 1939.

7. Henderson, Harold; Foster, D. Bruce, and Eno, L. S.: Am. J. Obstet. & Gynec. (Apr.) 1941, p. 596.

8. Schreiber, Frederic, and Gates, Nathaniel: Cerebral Injury in the Newborn Due to Anoxia at Birth, J. Michigan M. Soc. 37:147 (Feb.) 1938.

ly recognized that a precipitate delivery is dangerous to the baby.

If we agree that the mother is entitled to some form of sedation and that the barbiturates are the least dangerous to the baby, what general anesthetic should be given? Both Clement Smith[9] and Eastman[10] state that fetal oxygenation seems to be satisfactory under ether anesthesia. They, as well as others, warn against the dangers of nitrous oxide-oxygen. Smith states that even with 20% oxygen there is definite maternal and fetal anoxemia. Since this mixture is usually unsatisfactory to the obstetrician, the anesthetist increases the nitrous oxide to 85% or even 90% or higher. With 90% nitrous oxide and 10% oxygen, lasting over 5 minutes, there is severe fetal anoxemia, and a profound asphyxia results in one out of three newborns. Clifford states the percentage is even higher, three out of five.

With cyclopropane, the infant's blood was better oxygenated than under nitrous oxide-oxygen but not as good as under ether or without any anesthesia. Smith concludes: "Judged by biochemical data, cyclopropane as an obstetrical anesthesia would appear less safe for the infant than the clinical appearance of the mother would indicate."

Cole gives some interesting figures obtained with 108 full term elective cesarean sections, sixty under ether and 48 with spinal anesthesia. (Table 3.)

TABLE 3

	Ether	*Spinal*
Stillbirths	3.4%	0%
Severe asphyxia	23.3%	4.2%
Mild asphyxia	5.0%	4.2%
Respirations spontaneous but delayed	10.0%	0%
Immediate respiration	58.3%	91.6%

He claims that spinal anesthesia is the anesthetic of choice and carries the least danger for the baby. However, the surgeon must recognize the danger of a sudden fall in blood pressure which affects the baby as well as the mother. Fatal fetal anoxemia has resulted from this sudden fall in blood pressure. In cesarean sections, Clifford recommends a rapid section under nitrous oxide-oxygen. The mother is draped and the surgeon stands with knife in hand before the anesthetic is started. The baby should be delivered in less than five minutes from the start of the anesthetic. No preoperative sedation is used.

On account of the many physicians delivering babies at the local Birmingham hospitals and the variety of methods used, no attempt has been made to make a statistical study. However, it is interesting to go over the records at the Salvation Army Home and Hospital. For a number of years the writer has been impressed with the lack of trouble experienced with the newborns. The other two visiting pediatricians have reported the same. The present supervising nurse has been on duty for over six years. She reports that the technique has been essentially the same with the 652 deliveries occurring during the years 1935-1941. No sedation is administered until the second stage is begun. Then one and one-half to three grains of sodium pentobarbital are given. Larger doses were given only rarely. This is followed by ether anesthesia. No morphine is given except in some of the hypertensive cases. The great majority of the babies were delivered by low forceps or version and extraction. The nurse reports that there were no cases of severe asphyxia and that the babies usually breathed promptly. Two babies died at the end of three hours but both were premature syphilitics. There were fourteen stillbirths. Four were due to premature separation of the placenta, three to prolapsed cord, one to cord around the neck, two to hypertension (did morphine play a part in these deaths?), two to injuries to the baby on account of the mother falling, and two were due to unknown causes.

Scopolamine has not been discussed. It is generally accepted that it increases the amnesia of the mother and Clifford and Irving[11] state that it has no injurious effect on the baby. Their routine technique at the Boston Lying-In Hospital is to use pentobarbital sodium, scopolamine, rectal ether and nitrous oxide-oxygen. Even though they use nitrous oxide, they caution against the

9. Smith, Clement A.: The Effect of Obstetrical Anesthesia upon the Oxygenation of Maternal and Fetal Blood with Particular Reference to Cyclopropane, Surg., Gynec. & Obstet. 69: 584 (Nov.) 1939.

10. Eastman, Nicholson J.: The Role of Anesthesia in the Production of Asphyxia Neonatorum, Am. J. Obstet. & Gynec. 31: 563 (Apr.) 1936.

11. Clifford, Stewart H., and Irving, Frederick C.: Analgesia, Anesthesia and the Newborn Infant, Surg., Gynec. & Obstet. 65: 23 (July) 1937.

stronger mixtures and the duration of its administration. Although sodium pentothal, a barbiturate, is being used as an intravenous anesthetic in some hospitals, it has not gained wide popularity. I know of no large study of its effect on the newborn. The observation has been that the baby is sleepy and slow to breathe as is experienced with large doses of other barbiturates.

Local anesthesia is increasing in popularity. Since it would have no effect on the baby, the pediatrician would welcome its use. However, if it is not administered correctly, the vaginal vault will not relax and some general anesthesia must be used.

While it is not the writer's motive to recommend a certain iron-clad routine, it would seem safer in the average delivery to limit the general anesthesia to ether unless some contraindication exists. If this anesthesia is preceded by pentobarbital sodium and possibly scopolamine, the effect on the baby should be minimal.

After delivery, the cord should not be clamped or tied until the baby is breathing well or asphyxia is definitely established. In either case, the blood should be milked out of the cord into the baby. Even this small amount of blood is important in increasing the oxygen capacity and may be vital in cases of asphyxia.

In conclusion, the writer wishes to stress the following points:

1. The mother is entitled to some relief during labor but Kamperman's advice not to begin the sedation until dilatation of the cervix is well started should be heeded.

2. In choosing the sedative or anesthetic to be used, it should be remembered that the baby is an important part of pregnancy and should not be ignored. Give the mother as much amnesia as is possible but do not asphyxiate the baby.

3. The premature baby is particularly susceptible to any sedative. Therefore, sedation should be avoided, if at all possible, where a premature baby is involved.

4. Do not use morphine or pantopon, especially within four hours of delivery.

5. Nitrous oxide-oxygen in mixtures of 85:15 or stronger is definitely dangerous to the baby, especially if used for a period longer than five minutes.

6. Pentobarbital sodium, scopolamine and ether administered in moderate amounts by a skillful operator and anesthetist should give the mother a satisfactory amnesia. If the attendant recognizes the fact that the baby may be sleepy and slow to breathe regularly and is prepared to handle the situation, no permanent damage should result. In other words, steer a course down the middle of the road, looking out for the safety of the newborn infant as well as the comfort of the mother.

The Doctor—I believe doctors are as unselfish now as they were fifty years ago. The reason they may not always appear so is due to the fact that the practice of medicine is very expensive now compared to a period when doctors "read medicine," bought a book, a few instruments and were set up for life. The cost of living was so small until few people suffered from want. It was customary for doctors to respond to all calls and render treatment without presenting bills. Some doctors took pride in declaring that they were poor business men. Even now a few doctors take pride in stating that they never ask patients for money. This is not only unfair to their families and patients but it is also unjust to fellow practitioners. If you want to serve best your patients, your families and yourselves apply accepted standard business rules along with proper medical knowledge and kindness.

It is honest to admit that doctors used to do all the charity practice without aid, partly because it helped both doctors and their patients. Finally the simple way of living grew complex and want, hunger, disease and distress overcame so many of our people until doctors needed and received help from public funds and donations from both selfish and unselfish people.

It was perfectly natural for individuals to clamor for rights and privileges in the administration of these funds. Elbert Hubbard declared frankly in favor of salaried medicine years ago.

Changes in the practice of medicine have brought wonderful improvements for patients, doctors and nurses. Hospitals and public health with their many benefits come from public funds and private donations. The work of doctors is just as essential as funds and working tools. If progress continues the voices of workers must maintain influence and leadership.—*Redfearn, J. M. A. Georgia, July* '42.

Without sound material, no architect, be he ever so skillful, can build a solid and beautiful temple. No more is it possible for social philosophy and statesmanship to construct model societies and governments without men for material possessed of sound minds and sound bodies.

It is needless to say that to secure these is the chosen and ceaseless mission of medicine.—*Trans. M. A. Alabama,* 1881.

12. Rosenfeld, M., and Snyder, F. F.: The Factor of Anesthesia in the Pathogenesis of Asphyxia Neonatorum, Am. J. Obstet. & Gynec. 38: 424 (Sept.) 1939.

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THE USE OF GOLD THERAPY IN RHEUMATOID ARTHRITIS

"Treatment of rheumatoid arthritis by means of gold has received the careful attention of American rheumatologists during the past five years, but to the present time final conclusions as to the part gold will play eventually in the treatment of this disease are not possible. The difficulties of trying to assess gold therapy are considerable. Thousands of arthritic patients already have been treated with gold in Europe and in America and a great many papers have been written on this subject; yet the basic issues at stake have not been settled." Thus does Rosenberg[1] open his discussion of this interesting and controversial subject. The Rochester clinician goes on to state that "the use of gold against arthritis began in 1927 when Lande and Pick independently published papers indicating that they had treated arthritic patients by means of gold. Lande reported that he had treated fourteen patients with satisfactory results whereas Pick had treated two patients and did not see any improvement. In a sense these two reports sounded a keynote of disagreement which has been heard repeatedly through the years that have intervened since that time."

1. Rosenberg, E. F.: The Present Status of Gold Therapy for Rheumatoid Arthritis, Proc. Staff Meet. Mayo Clin., 17: 264 (April 29) 1942.

The author tells us that Forestier popularized the use of gold against arthritis in France in 1929 and that its use then spread rapidly over Europe, particularly in England and Scandinavia. "The first papers by American authors appeared in 1936 (Oren and Phillips). Even today, however, the popularity of this treatment in America does not compare with what it enjoys in Europe."

Rosenberg informs us that "only meager information is available as to the metabolism of gold." And that "very little is known of the supposed manner of action of gold in arthritis." But he also says that "there is little doubt, however, that compounds of gold may exercise powerful chemotherapeutic effects." Rosenberg is inclined to believe that the results of gold therapy in rheumatoid arthritis are dubious and inconclusive.

But concerning toxic reactions the Rochester investigator is much more positive and emphatic. "These are common, sometimes serious and occasionally fatal." The incidence of toxic reactions in different reports varies from 21 to 77 per cent of patients treated. Fatal toxic reactions have occurred in one out of every 200 or 300 patients treated, thus making gold appear to be at least ten times as fatal as neoarsphenamine. "The most frequently encountered organ reactions are those which affect the skin or mucous membranes. These may take the form of mild pruritis or minor stomatitis; or may be intense and even fatal exfoliative dermatitis, gastro-enteritis or colitis. . . Severe hepatic and renal lesions have been observed. . ."

"Reactions affecting the nervous system have been observed repeatedly, including instances of peripheral neuritis and syndromes resembling encephalitis or cerebrovascular accidents. . ."

"Nearly every function of the hematopoietic organ has been impaired fatally as a result of gold therapy." And, unfortunately, "there appears to be no constant indicator which signals the approach of a toxic reaction."

And in conclusion we read that "as a result of these considerations our present attitude regarding gold therapy is quite conservative. Further developments in this field may cause us to change our present views, but, from the data at hand, it appears to us that the eventual fate of gold therapy

in the field of rheumatism is uncertain. The effects of gold observed in a few patients whom we have treated have not approached the striking improvement which has been observed in patients with rheumatoid arthritis who have acquired intercurrent jaundice, or in the case of most women patients who have become pregnant."

"The dangers of this form of treatment are notable and we do not believe gold should be used generally by practitioners who lack facilities for repeated laboratory studies of the patients' blood and urine. We are cognizant of the fact that rheumatoid arthritis is in every instance a disease of great potential seriousness and that we are sadly in need of more effective methods for its control. For these reasons we feel justified in continuing our investigations of gold therapy and it is our intention to give it further cautious and considered trials."

Rosenberg has dealt with a difficult and dangerous subject in a detached and critical manner and yet appears to have been perfectly fair also. The pitiable plight of many arthritics not infrequently causes them to become importunate and to demand that the harassed doctor do something, do almost anything that offers even a ray of hope. Gold therapy has been rather widely publicized for several years and any practitioner, faced with a demand that he resort to it, will do well to heed the sagacious and conservative counsel of Rosenberg.

Committee Contributions

Physician-Druggist Relationships

R. E. Cloud, M. D., Chairman
Ensley

DANGEROUS DRUGS

INFORMATION CONCERNING DRUGS THAT SHOULD BE SOLD ONLY TO OR UPON THE PRESCRIPTION OF PHYSICIANS, DENTISTS OR VETERINARIANS

The Food and Drug Administration of the Federal Security Agency has received numerous requests from drug manufacturers, retail and wholesale drug associations, and others, for a list of those drug products which it considers dangerous when sold otherwise than on the prescription of a physician, dentist, or veterinarian licensed by law to administer drugs.

In answer to such requests, the Administration has pointed out that the Food, Drug, and Cosmetic Act places upon the manufacturer and the distributor the responsibility for properly safeguarding the marketing of drugs which may be dangercus to the purchaser if distributed without restriction. Obviously, it is impossible to list all drugs which may be dangerous since not only the compositions but also the directions for use and the conditions in which their use is recommended may have a very definite bearing on the question of safety or danger. As examples of drugs which are considered dangerous when distributed for use otherwise than on prescription, the following have been mentioned:

Aconite
Aminopyrine
Barbiturates
Benzedrine sulfate (for internal use)
Cantharides (for internal use)
Carbon tetrachloride
Chrysarobin or goa powder
Chrysophanic acid
Cinchophen, neocinchophen, and other cinchophen derivatives
Colchicine
Colchicum
Emetine
Male fern (aspidium)
Phosphides
Phosphorus
Radium
Santonin
Sulfanilamide
Sulfapyridine
Sulfathiazole
Tansy, tansy oil
Tetrachlorethylene
Thiocyanates
Thymol
Thyroid
Wormseed oil (oil of chenopodium)

It is our opinion that preparations containing bromides should not be sold without prescription if the dosage provided involves the consumption of more than 30 grains per day or more than 15 grains during any 3-hour period.

The same is true of acetanilid, in the case of medicines that provide a total daily intake of more than 5 grains or more than 2½ grains during any 3-hour period.

For bromide-acetanilid combinations, we have suggested that preparations for lay use should not provide more than a total daily dose of 15 grains of sodium bromide and 5 grains of acetanilid, or more than 7½ grains of sodium bromide and 2½ grains of ace-

tanilid during any 3-hour period. Comparable amounts of other bromide preparations should, of course, be subjected to the same restrictions.

There is ample scientific evidence to support the view that preparations providing a daily dose of more than 15 grains of acetophenetidin or more than 15 grains of antipyrine are dangerous within the meaning of section 502(j) when distributed for indiscriminate lay use. Investigations which are currently in progress strongly suggest the probability that somewhat smaller daily doses of these drugs may likewise be dangerous when consumed indiscriminately. After public notice, our regulatory program will, of course, include actions based on sales of acetophenetidin and antipyrine under circumstances providing for a somewhat smaller daily dose if scientific opinion becomes available to establish the illegality of such sales.

In our judgment, epinephrine in solution of 1% or stronger cannot safely be indiscriminately used, and the same is true of ipecac in daily dosage greater than 10 grains, as well as of strychnine in a daily dose greater than 1/20 grain.

We have also expressed the opinion that products containing therapeutically effective proportions of digitalis, squill, strophanthus, or other pharmacologically related drugs may not be safe for indiscriminate distribution.

It has been our experience that manufacturers of such drugs as have been mentioned have taken advantage of the regulation permitting omission of directions for use and substitution of the so-called "prescription legend." Where the legend "Caution: To be used only by or on the prescription of a Physician (Dentist, or Veterinarian)" appears upon the package in lieu of directions for use, it is the obligation of the retailer to observe the injunction that the article be dispensed only upon prescription.

The fact that the federal law is applicable to the distribution by retailers of drugs which have been in interstate commerce in no way restricts the enforcement of state and local acts relating to the sale of drugs or the practice of pharmacy.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

APRIL 1942

Examinations for diphtheria bacilli and Vincent's	744
Agglutination tests (typhoid, Brill's, undulant fever)	715
Typhoid cultures (blood, feces and urine)	537
Examinations for malaria	1,308
Examinations for intestinal parasites	2,454
Serologic tests for syphilis (blood and spinal fluid)	38,164
Darkfield examinations	33
Examinations for gonococci	2,102
Examinations for tubercle bacilli	2,172
Examinations for Negri bodies (microscopic)	83
Water examinations (bacteriologic)	817
Milk examinations	2,139
Pneumococcus typing	10
Miscellaneous	714
Total	51,992

* * *

MAY 1942

Examinations for diphtheria bacilli and Vincent's	728
Agglutination tests (typhoid, Brill's and undulant fever)	807
Typhoid cultures (blood, feces and urine)	669
Examinations for malaria	1,693
Examinations for intestinal parasites	2,344
Serologic tests for syphilis (blood and spinal fluid)	41,887
Darkfield examinations	26
Examinations for gonococci	2,415
Examinations for tubercle bacilli	2,007
Examinations for Negri bodies (microscopic)	85
Water examinations (bacteriologic)	993
Milk examinations	2,107
Pneumococcus typing	8
Miscellaneous	576
Total	56,345

The above statistical report on examinations made during the months of April and May indicates that the specimen load of the Bureau of Laboratories is still on the increase. As an aid to prompt reporting it will, therefore, be appreciated if, wherever possible, physicians will use listing sheets when multiple specimens are to be submitted. Likewise, it will be an aid if large size containers carrying several specimens each are used instead of numerous single specimen mailing cases. This will not only save postage but time spent in the preparation of mailing cases as well.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

HEALTH CONDITIONS DURING THE FIRST SIX MONTHS OF 1942

The incidence of communicable diseases is always followed carefully as a measurement of health conditions in the state but during the present critical period there is additional importance attached to these reports. The shifts in population brought about by the acceleration of industry in certain areas and by the establishment of new industries creates problems which if not answered will be revealed by outbreaks of disease. Then, too, the assembly of large groups of men in army camps frequently results in sharp rises in disease incidence.

The figures for the first six months of this year are of particular interest, therefore, and are very encouraging in what they reveal. Typhoid fever, for example, was reported in forty-five individuals as compared to thirty-eight for the first six months of 1941. No serious breakdown in water supplies or sanitation has been evidenced by these figures. Typhus fever and diphtheria are both higher than a year ago but neither is alarmingly so. Poliomyelitis is practically the same with twenty-four cases reported in 1941 and twenty-two cases in 1942. The epidemic of 1941, however, was just beginning in June and was not revealed until the July figures were included.

Meningitis was one of the scourges of the first World War and since there is still no means of prevention against it an increase in incidence was anticipated. The six months' figures reveal only fifty-four cases reported as compared to forty-seven a year ago, figures within the range of normal variations.

As a whole, the communicable disease picture is satisfactory. Reporting is probably comparable for the two years even if there has been a curtailment of medical service. Minor diseases may not come to the attention of doctors as frequently as formerly but the serious diseases are undoubtedly receiving attention. The United States Public Health Service requests immediate reports on certain diseases in the state so the continued cooperation of the practicing profession is urged.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

PHYSICAL FITNESS

The theme of the 1942 annual meeting of the American Association for Health, Physical Education and Recreation was "National Fitness—Fitness for Victory."

The physical condition of our youth can only be the result of our previous ways of living.

The building up process must begin in early childhood and certain fundamental facts must be considered.

In view of the national situation the Association stated the program it recommends. The following, of interest to physicians, health workers and educators, is a part of that platform:

1. As shown by the draft, fifty per cent of American youths have disabling defects, hence:

It is necessary to have medical examinations for every young person of school age, the type of examination and the organization necessary to be determined by organized medicine, dentistry and public health.

2 The neglected defects in childhood are the same defects which prevent acceptance for service, hence:

It is important to secure early correction of every remediable defect, the ways and means to be determined by the family and community.

3. Many young persons violate health practices because they do not know how to live, hence:

There should be emphasis upon rest and sleep, nutrition, recreation, exercise, mental and social hygiene, and medical and dental care in order to develop desirable patterns of living.

All facilities and opportunities in the community should be utilized in a program of fitness through health, physical education and recreation.

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

COPIES OF BIRTH CERTIFICATES ISSUED HIGHEST ON RECORD

Never in the history of the Bureau of Vital Statistics have so many copies of birth certificates been issued as at the present time. Six years ago, the total number of copies issued numbered 14,974 as compared with 78,959 in 1941, which number is more than five times the 1936 figure. During the first half of 1942, more than three times as many copies were issued as during the entire year of 1936. There is every expectation that in 1942 the number of copies issued will reach and possibly exceed the 100,000 mark.

The accompanying table and chart present a report of the number of copies issued each year since 1936 according to whether the request was for a certified or non-certified copy.

For the first time on record the number of certified copies issued has exceeded the non-certified. This was to be expected, however, because defense industries insist on receiving certified copies.

During the first six months of 1942, almost eighteen times as many certified copies were issued as during the entire year of 1936. The number of certified copies issued in 1940 was more than double, in fact almost triple the number in 1939. This was repeated for 1941 and 1940. The number in 1942 is expected to be double that of 1941.

Of particular interest is the record established during the first half of 1942. The weekly production figures are given in the enclosed table and graph. Beginning with the week ending October 11, 1941, and continuing through the week ending June 20, 1942, the long-time trend has been steadily upward. In the week following, the output exceeded all past records by a wide margin, reaching the high point of 3,716 copies.

Compliance with requests for certified copies has now progressed so that a reply should be received within a week or at least ten days from date of its receipt. There is still a backlog of requests for non-certified copies. It is expected, however, that the backlog will be eliminated within the next thirty days. By September 1, 1942, all requests whether for certified or non-certified copies will be replied to within a week or ten days.

In making requests for copies of certificates it is very important that the full name of the person be given, date of birth, place of birth, full name of father, and full name of mother before marriage. A delayed birth certificate blank should not be filled out until it is definitely established that the birth is not on record. Certified copies cost fifty cents each.

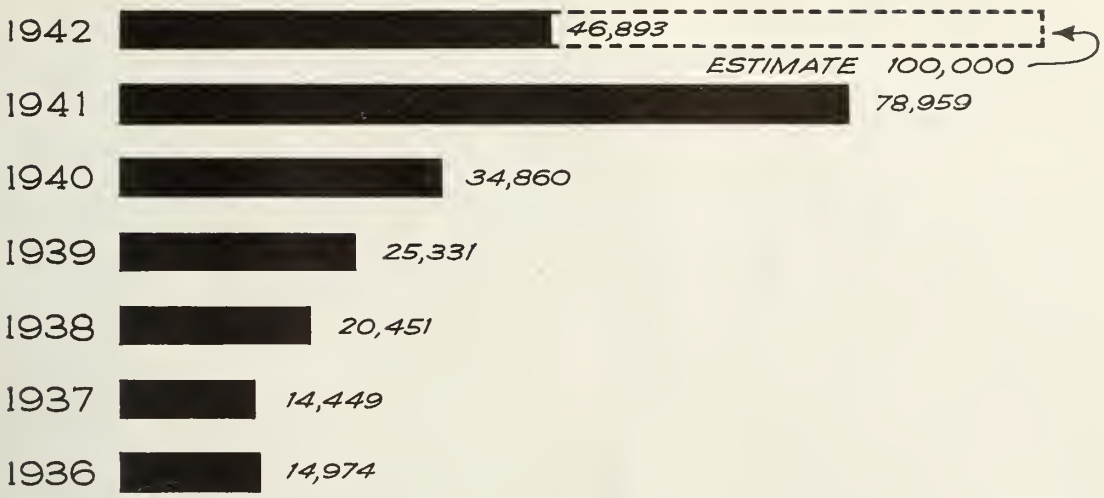
NUMBER OF COPIES OF BIRTH CERTIFICATES ISSUED ACCORDING TO TYPE AND YEAR, 1936-1942*

Year	Total	Certified	Non-Certified
1942*	46,893	32,751	14,142
1941	78,959	25,273	53,686
1940	34,860	9,164	25,696
1939	25,331	3,551	21,780
1938	20,451	2,603	17,848
1937	14,449	2,098	12,351
1936	14,974	1,831	13,143

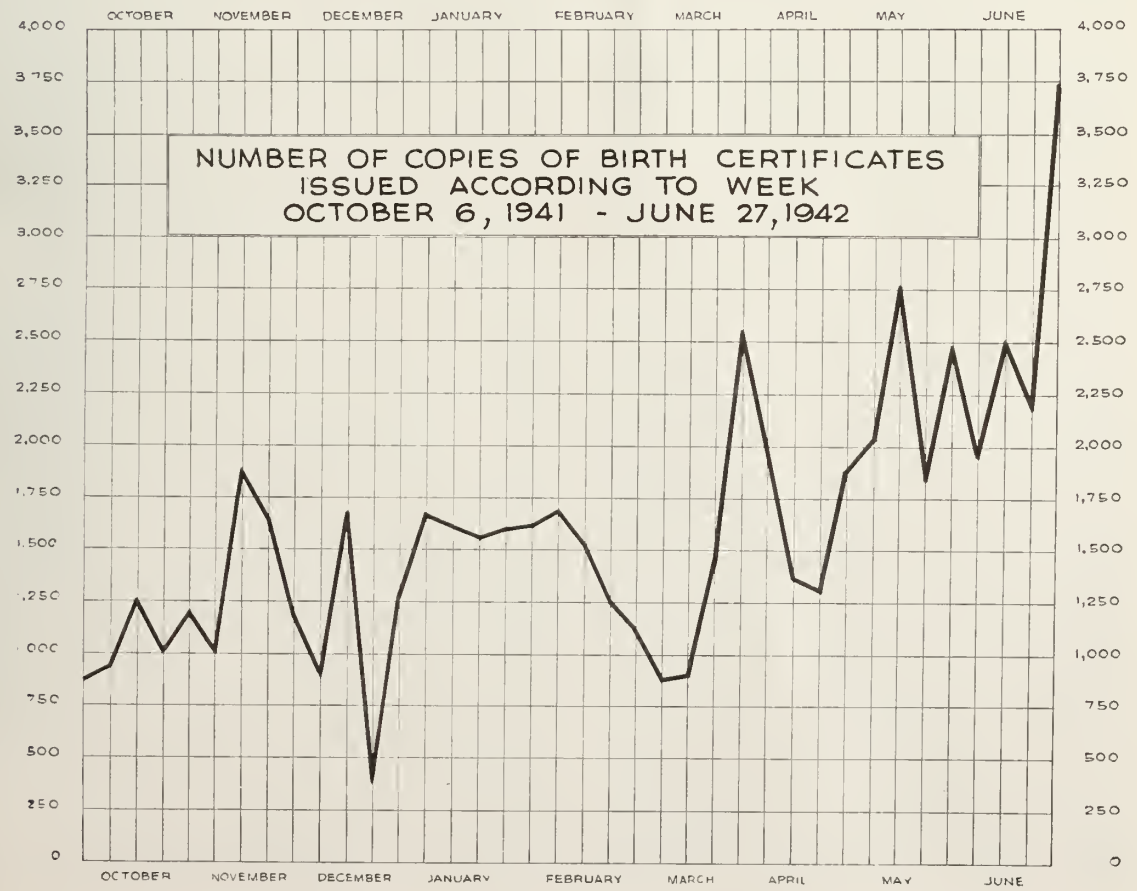
NUMBER OF COPIES OF BIRTH CERTIFICATES ISSUED ACCORDING TO TYPE AND WEEK, OCTOBER 1941-JUNE 1942

Week Ending		Total	Certified	Non-Certified
October	11	884	338	546
	18	952	252	700
	25	1,256	429	827
November	1	1,008	355	653
	8	1,207	380	827
	15	1,034	297	737
	22	1,903	394	1,509
	29	1,652	514	1,138
December	6	1,163	446	717
	13	895	242	653
	20	1,676	680	996
	27	381	95	286
January	3	1,287	626	661
	10	1,661	743	918
	17	1,594	728	866
	24	1,543	806	737
	31	1,571	792	779
February	7	1,580	883	697
	14	1,694	1,063	631
	21	1,537	815	722
	28	1,256	849	407
March	7	1,112	804	308
	14	880	733	147
	21	911	874	37
	28	1,440	1,279	161
April	4	2,548	1,869	679
	11	1,979	1,355	724
	18	1,356	1,011	345
	25	1,294	1,153	141
May	2	1,894	1,577	317
	9	2,052	1,594	468
	16	2,755	1,990	765
	23	1,847	1,292	555
	30	2,461	1,893	568
June	6	1,965	1,528	437
	13	2,511	1,858	653
	20	2,205	1,521	684
	27	3,716	2,886	830

*January-June, inclusive



NUMBER OF COPIES OF BIRTH CERTIFICATES ISSUED
1936 - 1942



BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

HEALTH WORKERS AND SANITATION IN EMERGENCIES

What are some of the sanitation problems in case of bombing or other emergency? There is no assurance that Alabama cities will not be bombed by what might be termed "token bombing," since many cities in the state are playing important roles in the war effort. In making plans for such emergency situations, it should be recognized at the outset that damage to utilities, buildings and homes will present serious hazards in sanitation, water supply and food-handling problems. Migrating population will impose burdens upon already inadequate facilities.

It is important that each local health department be adequately represented on the local defense council. Certainly arrangements should be made at this time whereby each health officer would be notified of alarms from the report center (control center). It is important that the entire staff of the health department have means of identification for each person and for each vehicle which might possibly be used during an emergency.

The elementary needs of providing pure water and safe means of excreta disposal should be prepared for. Since it is entirely possible that the public water supply under extreme conditions might be partially or entirely out of operation, it is advisable to prepare a spot map of private or semi-public water supplies from wells which might be utilized to supply water. Such investigation should include information on the physical condition of the well and a sample of water for analysis to determine the sanitary quality. In addition to this, it would be advisable to anticipate the need for containers and transportation facilities which are suitable and could be used to transport water from nearby public water supplies or satisfactory auxiliary supplies. In England a system of providing tank wagons containing water from nearby public supplies is used to provide drinking water for bombed areas. All such containers should be thoroughly cleaned and adequately sterilized with chlorine before they are placed in service. The chlorine content of the water in these supplies during the emergency should be carefully checked. The local health department will, of course, need to supervise the construction of safe means of excreta disposal in case the sewerage system became inoperative.

In addition to the above, plans should be made for insuring the safe handling of all foods and milk. In case of emergencies, the State Health Officer and the Bureau of Sanitation should be notified at once so that engineers, sanitation officers and food and milk inspectors can be sent to the critical area immediately.

The following information on the disinfection of small quantities of drinking water in emergencies is abstracted from "The Health Bulletin," of the North Carolina State Board of Health:

Boiling: The active boiling of water for at least two minutes is one of the most reliable methods for rendering water safe for drinking purposes.

Disinfection: If fuel is not available, water can be disinfected if the following simple equipment and chemicals are available:

1. A bottle or jug or other container of one-gallon capacity.
2. Medicine dropper.
3. One of the disinfecting agents noted below.

Chloride of Lime or Bleaching Powder: This can be obtained from most grocery stores. Make a paste with one level teaspoonful of chloride of lime powder and a little water. Add this to one quart of water and shake thoroughly. Allow to settle. Since the solution loses strength throw away any of this remaining at the end of each week. Add one teaspoonful or seventy-five drops of this solution to one gallon of water. Mix thoroughly and let stand for thirty minutes before using. For larger quantities of water add one teaspoonful of disinfecting solution to each gallon, such as fifty teaspoonfuls to fifty gallons of water in a barrel. One ounce of chloride of lime powder made into a paste will disinfect 1,500 gallons of water if thoroughly mixed.

Zonite: This is sold at drug stores. Add ten drops of Zonite to one gallon of water. Let stand thirty minutes before using. Seven teaspoonfuls of Zonite will disinfect fifty gallons of water.

Liquid Bleach: Clorox or other laundry bleaches sold at grocery stores under various trade names contain five per cent of

chlorine by weight. Use two drops of one of these to each gallon of water and let stand for thirty minutes. S. K. or 101 Solution contains 2½ per cent of chlorine by weight and would require four drops per gallon.

Tincture of Iodine: Most medicine chests have a bottle of tincture of iodine. Four drops of this added to one gallon of water and allowed to stand after thorough mixing will give satisfactory results.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	April	May	Estimated Expectancy May
Typhoid	7	10	20
Typhus	8	15	15
Malaria	98	274	263
Smallpox	1	2	4
Measles	748	806	580
Scarlet fever	64	49	28
Whooping cough	208	239	197
Diphtheria	24	24	30
Influenza	741	270	180
Mumps	418	307	166
Poliomyelitis	0	6	2
Encephalitis	2	0	3
Chickenpox	182	193	128
Tetanus	0	6	3
Tuberculosis	216	317	281
Pellagra	10	21	31
Meningitis	17	10	5
Pneumonia	371	231	287
Syphilis	1366	1760	1332
Chancroid	12	18	8
Gonorrhea	439	522	328
Ophthalmia neonatorum	5	1	1
Trachoma	0	0	0
Tularemia	1	0	3
Undulant fever	0	10	4
Dengue	0	0	0
Amebic dysentery	0	1	0
Cancer	135	171	0
Rabies—Human cases	0	0	0
Positive animal heads	30	20	

	May	June	Estimated Expectancy June
Typhoid	10	9	40
Typhus	15	23	23
Malaria	274	412	515
Smallpox	2	1	1
Measles	806	168	335
Scarlet fever	49	30	30
Whooping cough	239	206	195
Diphtheria	24	3	26
Influenza	270	88	38
Mumps	307	65	72
Poliomyelitis	6	7	10
Encephalitis	0	1	2
Chickenpox	193	47	43
Tetanus	6	6	6
Tuberculosis	317	219	265
Pellagra	21	18	62
Meningitis	10	7	6
Pneumonia	231	119	127
Syphilis	1760	1525	1317
Chancroid	18	23	4
Gonorrhea	522	456	339
Ophthalmia neonatorum	1	0	1
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	10	14	5
Dengue	0	0	0
Amebic dysentery	1	0	0
Cancer	171	160	0
Rabies—Human cases	0	0	0
Positive animal heads	20	20	0

As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The 1942 meeting of the Southern Medical Association will be held in Richmond, Virginia, November 9-12. In commenting on a press release under a Washington date line, to the effect that the government had asked that non-essential conventions be postponed until the war is over, the Secretary-Manager of the Association said: "Until we have something more specific than we have now, until a responsible agency of the government specifically rules that ours is a non-essential convention and will not be entitled to transportation facilities, if transportation is rationed, we are going ahead with plans for a meeting. Just now we are not thinking of the possibility of not having our meeting in Richmond. We feel we should go ahead with perfecting the plans for it will be much easier to call the meeting off on short notice than it will be to get it ready on short notice."

* * *

Columbia University announces that beginning September 1942 a program of professional studies for the training of physical therapy technicians will be offered. This training and instruction will extend over a two-year period and has been organized in compliance with the requirements set down for such programs by the Council on Medical Education and Hospitals of the American Medical Association. The course is being set up in University Extension in close relationship with the College of Physicians and Surgeons of Columbia University and the Nursing Education and Health and Physical Education Departments of Teachers College. The clinical and laboratory instruction will be given at the Vanderbilt Clinic, Neurological Institute, Presbyterian Hospital and New York Orthopedic Dispensary and Hospital.

Two years, or 60 semester hours of college, including courses in physics and biology, shall be required, or graduation from an accredited school of nursing or an accredited school of physical education.

A Certificate of Proficiency in Physical Therapy will be granted by Columbia University to those completing the course.

Further information may be obtained by writing the Office of the Committee on Physical Therapy, Room 303B, School of Business, Columbia University, New York City.

* * *

The American College of Physicians has announced its 27th annual session to be held in Philadelphia, Pa., April 13 to 16, inclusive, 1943. Heretofore, the College has held a five-day session but in the interest of conserving time and expense of its members the program will be condensed into four days, Tuesday through Friday. Dr. James E. Paullin, Atlanta, as President of the College, will have charge of the program of general sessions and lectures. Dr. George Morris Piersol, Philadelphia, as general chairman, will be responsible for the program of hospital clinics, panel discussions, local arrangements, entertainment, etc. The general management of the session and technical exhibits will be handled by the Executive Secretary, Mr. E. R. Loveland, 4200 Pine St., Philadelphia.

* * *

Dr. J. H. J. Upham, former president of the American Medical Association, has been elected chairman of the Board of Directors of the Planned Parenthood Federation of America. The war-time policy of the Federation has been endorsed by the 191 physicians who form the National Medical Council on Birth Control. Alabama's representatives on the Council are Drs. M. Y. Dabney, Clifford L. Lamar and Lee F. Turlington, Birmingham, and Dr. T. Brannon Hubbard, Montgomery.

* * *

The Southwestern Division of the Association, which met in York on July 2nd under the vice-presidency of Dr. J. Paul Jones, Camden, was addressed by Drs. E. P. Hogan, A. L. Glaze and Gilbert Douglas of Birmingham. A round table discussion on gynecologic procedures was engaged in by Dr. Douglas, Dr. R. C. Hill of York, and Dr. S. O. Moseley, Selma.

* * *

Dr. Harvey B. Searcy, Tuscaloosa, has been appointed a member of the Council of the Southern Medical Association from Alabama for a regular Council term of five years beginning in mid-November, the appointment having been announced recently by the President-Elect, Dr. Harvey F. Garrison, Jackson, Mississippi. Dr. Searcy succeeds Dr. E. W. Rucker, Jr., Birmingham, whose term will expire with the close of the Richmond meeting in November, and having served the constitutional limit is not eligible for reappointment.

* * *

The American Congress of Physical Therapy will hold its twenty-first annual scientific and clinical session September 9, 10, 11 and 12, 1942 inclusive, at the Hotel William Penn, Pittsburgh, Pa. The annual instruction course will be held from 8:00 to 10:30 A. M., and from 1:00 to 2 P. M. during the days of September 9, 10 and 11 and will include a round table discussion group from 9:00 to 10:30 A. M., Thursday, September 10. The scientific and clinical sessions will be given on the remaining portions of these days and Saturday morning. A new feature will be an hour demonstration showing technic from 5:00 to 6:00 P. M. during the days of September 9, 10 and 11. All of these sessions and the seminar will be open to the members of the regular medical profession and their qualified aids. For information concerning the seminar and program of the convention proper, address the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

* * *

A new textbook on Red Cross Home Nursing, written in a simple, popular style, yet bearing the stamp of approval of authorities in the fields of nursing, medicine and public health, is to come off the press in July, Miss Mary Beard, director of the American Red Cross Nursing Service, has announced. Two million copies have been ordered by the Red Cross for the use of homemakers, both old and young, masculine and feminine, in Red Cross home nursing classes throughout the country.

The new textbook will replace one which, though revised upon occasion, was written originally in 1913 by Jane A. Delano and Isabel McIsaac. The new textbook has been entirely prepared and brought up to date by Miss Lona Trott, R. N., B. S., assistant director, health education, Red Cross Nursing Service.

Bound in the familiar gray cover with red trimming, the publication is divided into four sections: "Health and Happiness in Home Life"; "How the Community Protects the Health of Home and Family"; "How to Take Care of Mother and Baby"; and "What to do When Sickness Invades the Home." The book is priced at 60 cents and is illustrated with about 100 pictures and drawings, many of them helpful in teaching home nursing procedures. It may be procured from any Red Cross chapter.

The committee which assisted in the general plans and in giving advice in the preparation of the manuscript consisted of Miss Mary Connolly, director of public health education, Detroit Department of Health; Miss Anna C. Gring, assistant director, National Organization for Public Health Nursing, New York; Anna L. Payne, director, Red Cross Home Nursing, Mineola, New York; Miss Edna P. Amidon, chief of home economics education service, U. S. Office of Education; and Miss Virginia M. Dunbar, assistant director, American Red Cross Nursing Service. Dr. Ira V. Hiscock, professor of public health, Yale University School of Medicine, prepared the section on community health and reviewed the whole manuscript.

Various sections of the book have been read and approved by the following specialists in their respective fields: Miss Melva B. Bakkie, director, nutrition service, American Red Cross; Dr. Samuel Binkley, medical director, American Society for Control of Cancer; Dr. Walter Clarke, executive director, American Social Hygiene Association; Dr. Marion Crane and Dr. Hart E. Van Riper, Children's Bureau, U. S. Department of Labor; Dr. Kendall Emerson, managing director, National Tuberculosis Association; Dr. Haven Emerson, chairman, committee on communicable disease control of the American Public Health Association; Miss Ruth Gilbert, supervisor of social work psychiatric service, New Haven, Connecticut; Dr. H. M. Marvin, executive secretary, American Heart Association; Dr. Lon W. Morrey, director, bureau of public relations, American Dental Association; Eleanor Mumford, National Society for the Prevention of Blindness; Miss Dorothy Rusby, Henry Street Visiting Nurse Service; and Dr. L. M. Thompson, assistant director of First Aid, Water Safety and Accident Prevention, American Red Cross.

* * *

The American Board of Obstetrics and Gynecology announces that the next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 13, 1943, at 2:00 P. M. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year. All applications must be in the office of the Secretary by November 16, 1942.

Effective this year there will be only one general classification of candidates, all now being required to have been out of medical school not less than eight years, having in that time completed an approved one-year general rotating interneship and at least three years of approved special formal training, or its equivalent, in the seven years following the interne year. This Board's requirements for interneships and special training are similar to those of the American Medical Association since the Board and the A. M. A. are at present cooperating in a survey of acceptable institutions. All candidates must be full citizens of the United States or Canada before being eligible for admission to examinations.

All candidates will be required to take the Part I examination, which consists of a written examination and the submission of twenty-five (25) case history abstracts, and the Part II examination (oral-clinical and pathology examination). The Part I examination will be arranged so that the candidate may take it at or near his place of residence, while the Part II examination will be held late in May 1943, in that city nearest to the largest group of applicants. Time and place of this latter will be announced later.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

* * *

Twenty-eight of its thirty-two active chapters were represented at the Seventh Biennial Convention of Alpha Epsilon Delta, honorary premedical fraternity recently held at West Virginia University, Morgan-

town. Convening under the influence of the United States at war the role of the premedical student in the present emergency was among the more important questions discussed by the convention. Realizing the need for an increased supply of physicians for the war program, the convention recorded the opinion that all premedical students should be urged to complete their college work in order to begin the study of medicine and make their training available to the country as soon as possible. The national officers were instructed to call the attention of Selective Service officials to the need of deferring competent premedical students so that an adequate supply would be available for acceptance into medical schools.

Of timely interest was the consideration of the problems facing the premedical student during the next few years when it will be necessary to correlate his college curriculum with the accelerated program of the medical schools. An all-out full-time program of activities for the fraternity and chapters was presented to the convention by a special committee appointed to consider how the fraternity can best serve in promoting the war effort. Wherever feasible all chapters agreed to undertake projects to assist the Red Cross in the blood procurement campaign, to assist in improving student health at the colleges, and to take the initiative in supporting all agencies which require work among college students in aiding the national welfare.

In order that these plans and projects can succeed it was decided that for the duration the national fraternity should carry on its work through the summer in order to be able to assist better those chapters which will be active the year around.

One of the highlights of the meeting was the decision of the convention to assert their support of the war program by investing a substantial amount of fraternity funds in war bonds.

Dr. Andrew E. Amick, Charleston, W. Va., and Dr. Francis P. DeLancy, Morgantown, spoke at a university convocation sponsored by Alpha Epsilon Delta. Dr. Amick spoke on "Medicine and the State," and Dr. Delancy on "Medical Licensure." Dr. Frederick E. Keller of the Anderson Hospital, Philadelphia, Pa., was the principal speaker at the convention banquet. His subject was "The Idealist in Medicine."

The following national officers were elected at the final business session of the convention: President, Dr. Warren H. Steinbach, Department of Chemistry, University of Arkansas; Vice-President, Dr. H. E. Setterfield, Department of Anatomy, Ohio State University; Secretary-Historian, Dr. Maurice L. Moore, Medical Research Division, Sharp & Dohme, Glenolden, Pa.; Treasurer, Dr. Norman F. Witt, Department of Chemistry, University of Colorado; and Councilor, Dr. Emmett B. Carmichael, School of Medicine, University of Alabama.

Mr. Charles Moffett, University, represented the University of Alabama Chapter at the meeting, while the Howard College Chapter was represented by Miss Flonnie Cooper, Birmingham.

* * *

Dr. L. O. Davenport, Birmingham, was reelected a Governor of the American College of Chest Physicians at the annual meeting of the College held at Atlantic City, June 6-8, 1942.

Book Abstracts and Reviews

The Clarks, An American Phenomenon. By William D. Mangam. With an introduction by Edward Alsworth Ross. Cloth. Price, $2.50. Pp. 257. New York: Silver Bow Press, 1941.

For decades prior to a few weeks ago, when the war-created rubber shortage killed the sightseeing business for the duration, horse-drawn omnibuses and later motorbuses would leave New York's Time Square every few minutes with their human cargoes of sight-seers under the gabby chaperonage of megaphone maestros spieling about the buildings, parks and other spots of interest passing in swift review. And in those relatively happy, carefree days, one of the show places over which the rubberneck impressarios really "went to town" was the fabulous Senator Clark mansion at Fifth Avenue and 77th Street. And well they might. For didn't it take six years to build and cost seven million dollars? Hadn't the consulting architect also designed the Grand Palace on the renowned Champs Elysees? Hadn't the senator bought whole quarries and stone-finishing plants, a wood and plaster works, and a bronze foundry to be certain that this dream castle would contain only the finest materials? Didn't it contain more than a hundred rooms, exclusive of the servants' quarters? Didn't it have a rotunda on the ground floor that would shame many a royal palace? Didn't its circular staircase, with its rail of bronze and gold plate, remind the fortunate guests of the public rooms on their favorite transatlantic liner? Were there not breath-taking marble halls and corridors flanked with priceless tapestries and works of art? Weren't

there any number of other examples of lavish spending by a man who was determined to live in one of the finest buildings ever erected to tickle human vanity? No wonder the leather-lunged megaphonists went into ecstasies of superlatives whenever they and their charges rode past.

"The Clarks, An American Phenomenon" is essentially the story of that fabulous Fifth Avenue castle and of the man who built it. It is a story of huge financial success growing out of humble beginnings. It is a story of Montana politics and the skillful use of money for the acquisition of things supposedly beyond the power of money to buy—specifically, political power, control of a state legislature and the distinction of representing Montana in the United States Senate, where, it might be added, his methods of winning that distinction appear to have caused his senatorial contemporaries to treat him like a black sheep at a family reunion.

Mr. Mangam has not written the life-story of the fabulous Senator William Andrews Clark alone. Only one chapter of his book—naturally, the first and longest chapter—is devoted to his life and achievements, including the architectural show-off at Fifth Avenue and 77th Street. Other chapters recount the adventures loves, marriages, divorces, family squabbles, scandals and near-scandals of the others whose lives touched his most often and most intimately.

"The Clarks, An American Phenomenon" is well written. It has an interesting story to tell and tells it well. It is something of an eye-opener in matters political but written without passion and essentially without bias. In brief, Mr. Mangam has done a good job.

J. M. G.

Eye Hazards In Industry. By Louis Resnick, Late Director of Industrial Relations, National Society for the Prevention of Blindness. Cloth. Price, $3.50. Pp. 321. New York: Columbia University Press, 1941.

This brief volume brings our knowledge of eye hazards in industrial occupations up to date, and while primarily designed as a handbook for safety engineers, safety inspectors and all others actively engaged in safety in general, and light conservation in particular, it contains much information as to the cost, the problem and the solution of the problem of eye accidents occurring in industry which is, or should be, of interest to industrial physicians.

The book has only two parts and sets forth in the first part the problem of sight conservation with subheadings on eye hazards, accidents, diseases, defective vision and first aid as they apply to industry. His treatment of statistics is recent, accurate and readable.

The second part of the book is devoted to the solution of the problem of sight conservation and presents workable ways and means and practical working programs now in use under the following headings: mechanical guards, process revision, proper lighting, education and administrative supervision.

The appendices include special information which may be useful in reducing eye accidents and loss of vision from occupational causes and include a self appraisal form for eye safety in industry, a list of industrial poisons which are hazards to the eyes, recommended minimum standards of illumination for industrial interiors and a comprehensive bibliography.

This volume contains much of interest and value to the physician interested in industrial practice.

E. H. P.

A Diabetic Manual For The Mutual Use Of Doctor And Patient. By Elliott P. Joslin, M. D., Sc. D., Clinical Professor of Medicine, Emeritus, Harvard Medical School; Medical Director of Geo. F. Baker Clinic at the New England Deaconess Hospital; Consulting Physician, Boston City Hospital, Boston, Mass. Seventh edition. Cloth. Price, $2.00. Pp. 238, illustrated. Philadelphia: Lea and Febiger, 1941.

This, the seventh edition of Joslin's Manual, is a complete revision of the earlier volumes. The subject matter is clear cut and simple. The subject of diabetes is presented in such simple language as to be understood by the average patient, and, at the same time, sufficient scientific material is added to make the volume useful to the practitioner.

Chapters IV and V—which consist of questions and answers—are well presented and useful. Every chapter stresses the need of cooperation between the patient and the physician. Throughout the volume is much evidence that the publishers have done a fine job. The type, reproductions and arrangement are all ideal. The author must be complimented upon his selection of illustrations which are timely and purposeful. For example, the illustrations concerning the technic of injections leave nothing to the imagination.

The most impressive feature of this manual is the display of fine optimism concerning the diabetic and his disease. This feature alone is recommendation for each physician to read this book.

N. V. W.

Laboratory Diagnosis Of Protozoan Diseases. By Charles Franklin Craig, M. D., M. S. (Hon.), F. A. C. S., F. A. C. P., Col., U. S. Army (Retired), D. S. M., Emeritus Professor of Tropical Medicine in the Tulane University of Louisiana, New Orleans, Louisiana. Cloth. Price, $4.50. Pp. 349, illustrated with 54 engravings and 4 colored plates. Philadelphia: Lea and Febiger, 1942.

This book, by an author having forty years experience in the field, fills a definite need. It is a manual of laboratory methods to be used in the diagnosis of diseases caused by Protozoan organisms. These diseases are common and all of them dependent upon laboratory methods for their accurate diagnosis.

The author has assembled in a single volume valuable procedures, many of which have hitherto been hidden in the pages of journals, which have never appeared in texts on clinical diagnosis, bacteriology or parasitology. In all instances he has added his evaluation of their usefulness based on his own experience, or that of other workers.

Of special interest is the Critique of Diagnostic Methods following each section which suggests a scheme for a diagnostic procedure based on the

author's experience. On the whole, this is a book of real value to anyone having the responsibility of making laboratory examinations for the diagnosis of protozoan diseases. With the return of our troops from foreign service its usefulness should be even further increased. S. R. D.

Directory Of Medical Specialists. Certified by American Boards, 1939, and edited by Paul Titus. Cloth. Price, $7.00. Pp. 2,495. New York: Columbia University Press, Morningside Heights, 1942.

The 1942 edition of the Directory is much larger than the first edition of 1939, having been increased by more than 4,000 doctors. It now contains information concerning 18,000 certified diplomates.

The Directory is most detailed as regards medical specialty. It contains separate sections devoted to each American Board, arranged both geographically and alphabetically. Bibliographically, it is most complete.

This volume, moderately priced, is an indispensable reference for many individuals and organizations, especially during this worldwide conflict. It should be useful to all Selective Service executives, Army and Navy administrators and to officials and other organizations who must pass upon applicants and candidates for various positions.

N. V. W.

Serology In Syphilis Control, Principles of Sensitivity And Specificity. By Reuben L. Kahn, M. S., D. Sc., Director of Clinical Laboratories and of Serologic Consultation Service, University of Michigan Hospital; Assistant Professor of Bacteriology and Serology, University of Michigan Medical School; Major, Sanitary Corps Reserve, U. S. Army; Special Consultant, U. S. Public Health Service. Cloth. Price, $3.00. Pp. 206. Baltimore: The Williams & Wilkins Company, 1942.

This book, written by one whose name is known wherever serodiagnostic tests for syphilis are performed, is unique. It does not describe technique, nor does it discuss which test is better, or poorer. Rather, starting with the assumption that serologic tests are indispensable in the diagnosis, treatment and control of syphilis, the book deals with the principles of sensitivity and specificity of such tests and proposes a plan for making blood tests more dependable. That reliability is of paramount importance is obvious, especially in these days of wholesale blood testing, but how often the interpretation of a serologic report which confronts the clinician with "unexpected" reactions is a matter of extreme difficulty. In a most successful manner Dr. Kahn tells the reader what to do about such reactions, whether to repeat the examinations, multiply tests, or split specimens.

A particularly important part of Serology in Syphilis Control is the section for health officers and industrial physicians. A real comprehension of these two chapters by the medical men involved might lead to a more intelligent utilization of serology in their efforts at syphilis control.

The final chapter of the book is a timely symposium on syphilis control today with reports from industry, the Army, the Navy, the U. S. Public Health Service and the American Social Hygiene Association.

This book is distinctly MUST reading for anyone dealing with syphilis from any angle.

S. R. D.

Carcinoma And Other Malignant Lesions Of The Stomach. By Waltman Walters, B. S., M. D., M. S. in Surgery, D. Sc., F. A. C. S., Surgeon, Mayo Clinic; Howard K. Gray, B. S., M. D., M. S. in Surgery, F. A. C. S., Surgeon, Mayo Clinic; James T. Priestley, B. A., M. D., M. S. in Experimental Surgery, Ph. D. in Surgery, F. A. C. S., Surgeon, Mayo Clinic; and Associates in the Mayo Clinic and Mayo Foundation, Rochester, Minn. Cloth. Price, $8.50. Pp. 576, with 143 illustrations. Philadelphia and London: W. B. Saunders Co., 1942.

This monograph which utilizes the information gleaned from 11,000 cases of cancer of the stomach, 6,000 of which came to operation, is a valuable mine of information. The book contains a thorough review of malignant lesions of the stomach by the authors and their associates at the Mayo Clinic. It covers the period of time from 1907 to 1938. Some of the follow-up studies cover periods up to 25 years subsequent to operation.

The purpose of the authors is to convey the opinion and expressions of a group of men working together as a single unit in a coordinated manner. They do not express individual or general opinions of a single person.

The chapters include roentgenologic diagnosis, gastroscopy, clinical features, indications for treatment and associated complications. Preoperative care and anesthetics are covered in minute detail with special attention to individual problems. Actual operating room set ups are included in a separate chapter.

The monograph is presented with many illustrations and carefully reproduced photographs and pictures. The type is large and easily read. Despite the division into separate monographs written by prominent individuals of the Mayo Clinic and Foundation, the editors have been careful to prevent any overlapping. Arrows placed on the reproductions in order to localize more accurately the descriptive titles would make many of the illustrations more valuable to the average physician. The anatomic sketches, however, are beautifully and accurately reproduced. In many places actual photographs of set ups, scars, patients and instruments are introduced, which photographs are very clear.

The bibliography is complete and the index adequate.

The authors have produced in carcinoma of the stomach a valuable monograph for the profession, a monograph which is moderately priced.

N. V. W.

The Public Health Nurse In Action. By Marguerite Wales. Cloth. Price, $2.75. Pp. 437. New York: The Macmillan Company, 1941.

This book is a collection of case histories illustrating general principles of public health nursing. The ten chapters discuss public health nursing in the following services: mother and babies, infant and preschool health, the school child, communicable disease, tuberculosis, orthopedics, syphilis and gonorrhea, the chronically ill patient, and industrial nursing service. The last

chapter tells how the case conference method was used in a rural area in Michigan as a means of staff education and encouragement for rural health and welfare workers.

This is an interesting way to present material and should be especially helpful to student nurses and to nurses new in public health. Health officers will get a comprehensive picture of the work of public health nurses if they do not object to the repetition and large amount of detail.

P. B.

Synopsis of Materia Medica, Toxicology And Pharmacology. By Forrest Ramon Davison, B. A., M. Sc., Ph. D., M. D., Medical Department, The Upjohn Company, Kalamazoo, Michigan. Formerly Associate Professor of Pharmacology in the School of Medicine, University of Arkansas, Little Rock. Second edition. Cloth. Price, $5.75. Pp. 695, with 45 illustrations, 4 in color. St. Louis: The C. V. Mosby Company, 1942.

This synopsis is a volume of 695 pages which from cover to cover is filled with vital data. In addition to materia medica, toxicology and pharmacology, it is everywhere filled with physiology. Dr. Davison has presented a small, compact and concise encyclopedia which reveals evidence of extensive experience and reference to the literature. Because of its small sixe (5x8) it is a valuable asset to the private physician in his office, or to the physician in the Armed Forces. It contains numerous excellent prescriptions throughout. It is entirely up to date, including such drugs as the latest sulphonamides, vitamins, et cetera.

One of the criticisms is the fine print, but this is a necessity in view of the author's desire to keep the volume small. Throughout there is considerable repetition which could be avoided and would diminish the size of the volume. This repetition is present because the author elects to divide the drugs as to their site of action. From a physiologic viewpoint this is good, but to do so means that a drug which acts upon the nervous system, muscle and the kidney must be described in each of these individual divisions. Nevertheless, the descriptions of each drug, its pharmacologic action, toxicology and therapeutic use, is very concisely and completely described.

Wherever practical, a complete prescription is presented, followed by a list of the various preparations and their respective dosages. The physiologic actions of each of the most common drugs are adequately treated.

This combination of materia medica, toxicology and pharmacology, supplemented by numerous inserts of physiology, makes this synopsis a valuable addition to every physician's library where brevity, accuracy and completeness are desired.

Its small size and low cost are additional features.

N. V. W.

Vitamins And Minerals For Everyone. By Alida Frances Pattee. Cloth. Price, $2.00. Pp. 242. New York: G. P. Putnam's Sons, 1942.

The simplified material in this book is attractively presented and requires no technical knowledge to understand it. The book is divided as follows: Part I—Vitamins, Part II—Minerals, and Part III—Appendix.

The discussion of vitamins and minerals follows the same uniform outline: what they are, where they come from, what they do for us, what happens if we do not have enough of them, etc.

"Pa's Misery," "The Dramatic Case of Little Billy," and "Why Marjorie King is a Vitamin D Fan," etc., are too dramatic, hysterical and inaccurate to have any place in the book. Vitamin concentrates are possibly overemphasized.

The summaries of food nutrients, tables of food values, and sample menus which appear in the appendix are quite extensive and complete.

A. T.

Stitt's Diagnosis, Prevention And Treatment of Tropical Diseases. By Richard P. Strong, M. D., Sc. D., D. S. M., C. B., Professor of Tropical Medicine, Emeritus, Harvard University. Consultant in Tropical Medicine to the Massachusetts General Hospital and the Boston City Hospital. Member of the Health Council, Commonwealth of Massachusetts. Trustee of the Carnegie Institute, Washington. Colonel, M. R. C., United States Army, (Inact.). Consultant to the Secretary of War on Tropical Medicine, 1941. Sixth edition. Cloth. 2 volumes. Price, $21.00. Pp. 1,747. Illustrated. Philadelphia: The Blakiston Company, 1942.

The last previous edition of this publication was in 1929 so that this new revision by Dr. Strong comes at a very opportune time. Knowledge concerning many of the tropical diseases has progressed extensively during recent years and at this time there is a greater general interest in the diseases peculiar to the tropics than at any time in history. Dr. Strong has done a magnificent job in rewriting a well known reference book and the high standard set by previous editions is more than maintained.

In addition to a comprehensive covering of each disease as an entity there is a very valuable section devoted to Problems of Medical Practice in the Tropics covering some of the general considerations. Appendices giving Index of Clinical Diagnosis, Laboratory Diagnosis and Tropical Hygiene complete the volume. Tropical diseases do not confine themselves to the tropics nor do diseases of temporate zones avoid the warmer climates so that this publication should be of interest to a wide circle of medical men.

D. G. G.

Civilian Defense Items

OCD URGES RECRUITMENT OF MORE NURSES' AIDES

The Civilian Mobilization Branch of the Office of Civilian Defense recently issued a memorandum to its regional representatives urging a concerted effort to stimulate the recruitment and enrollment of Nurses' Aides so as to relieve the serious shortage of nursing personnel in hospitals.

A report dated June 20 showed that 25,905 Nurses' Aides had been enrolled, of whom 12,890 had been certificated. This is only

one-fourth of the 100,000 set as a goal at the beginning of the campaign in the summer of 1941. Reports from all parts of the country indicate that the training has been well carried out and the Nurses' Aides are now giving valuable service in their assignments.

The memorandum reveals that some hospitals are reported to be accepting volunteer workers without training and permitting them to carry out many of the tasks usually performed by Nurses' Aides. Although several different types of volunteer assistants can be used in hospitals, untrained workers should not be assigned to duties similar to those of trained Nurses' Aides. Such a practice militates against the establishment of a reliable, disciplined corps of workers and deters enrollment of Nurses' Aides, it was said.

The Medical Division issued a similar memorandum to Regional Medical Officers, pointing out the danger of allowing untrained workers to give service to patients and the handicap to recruitment of students for the Nurses' Aides course.

"It is understandable that hospitals short of workers want help as soon as possible, but the relatively short time necessary for training Nurses' Aides usually repays the hospital for waiting because it assures more dependable and disciplined workers," the memorandum said. "If volunteers are allowed to work on hospital wards without training and are assigned duties similar to those performed by trained Nurses' Aides, there is a serious effect on recruitment of Nurses' Aide students."

Nurses' Aides are recruited by the American Red Cross in cooperation with local Civilian Defense Volunteer Offices. Each local chapter of the Red Cross which sponsors Nurses' Aide training has a Nurses' Aide committee on which there is a representative of the local Civilian Defense Volunteer Office. The local chief of Emergency Medical Service is also a member of this committee, which recruits desirable applicants, selects hospitals to serve as training centers, and organizes and maintains a placement service for aides who have completed their courses.

The training course for Nurses' Aides includes 80 hours of instruction presented in seven weeks. The first half is given in a Red Cross chapter house or other suitable place. After this probationary period, the instruction is continued in hospitals selected as training centers. When the course is completed, the Red Cross serves as a placement agency for the assignment of Nurses' Aides to duty in hospitals, clinics, health departments, school health and field nursing services.

The Red Cross recently modified its requirement that all hospitals selected as training centers for Nurses' Aides must be on the approved lists of the American Medical Association and the American College of Surgeons so as to permit certain exceptions.

Before the local Nurses' Aide committee approves a request for an exception, it must obtain the following information: Why the hospital is not approved by the American College of Surgeons; its standing in the local community; the bed capacity; the daily average number of patients; how many graduate nurses are employed; whether there are graduate nurses on all floors to provide adequate supervision; how many paid aides are employed; the possibility of providing practice for the second part of the course and opportunity for service later; and the need for Volunteer Nurses' Aides in the community.

If the nursing standards are high, if the hospital in question is not on the approved list of the American College of Surgeons due to lack of equipment which has no connection with the training of Nurses' Aides and the Area Red Cross nursing supervisor confirms the recommendation of the local committee, the hospital may be approved as a training center. In case there is no Nurses' Aide committee, a Red Cross nursing consultant may visit the hospital, or information may be obtained from the State nursing council or the State nurse examining board.

Each Nurses' Aide agrees to give 150 hours of service in each calendar year, preferably within a three months period. In case of need for war service, Nurses' Aides must be prepared to serve locally in the emergency for as long a period as they are needed.

The Office of Civilian Defense has asked its Regional Office representatives to work out plans for stimulating the recruitment of Nurses' Aides to provide the needed strength to meet war demands.

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Miscellany

RESEARCH SHOWS MUSCLE SPASM IS PRESENT IN POLIOMYELITIS

INVESTIGATORS FIND THAT IT EXISTS NOT ONLY IN ANTAGONIST MUSCLE BUT ALSO IN THE ONE WEAKENED BY THE DISEASE

Substantiation of the concept of the Australian nurse, Miss Elizabeth Kenny, that muscle spasm "is a damaging and ever present symptom of the disease infantile paralysis . . ." is reported in the July 18 issue of The Journal of the American Medical Association by R. Plato Schwartz, M. D., and Harry D. Bouman, M. D., of the University of Rochester School of Medicine and Dentistry, Rochester, N. Y.

By making graphic records of the electric current produced by muscles in action, the two investigators found that spasm exists not only in the muscle opposite (antagonist) the muscle weakened by infantile paralysis, as contended by Miss Kenny, but it also exists in the weakened muscle itself and in muscles in parts of the body in which clinical symptoms of the disease are not evident.

The term "muscle spasm" denotes a group of symptoms including twitchings, excessive

irritability of the muscle to stretching and a more or less continuous state of contraction of the muscle fibers.

Drs. Schwartz and Bouman explain that the recent increase in favorable observations regarding the Kenny concept of spasm in the acute stage of infantile paralysis has not been accompanied by evidence from any investigation aimed specifically at verifying this concept. Accordingly, they say, "it was necessary to approach this question of muscle spasm by a method which would be independent of, but could be correlated with, clinical observations.

"Action currents are among the means most suitable for recording extremely minor contractions of muscle. . . The rigid principles that define the technic of this method were applied to the study of patients: (1) 7 with infantile paralysis, (2) 3 with spastic paralysis and (3) normal subjects for control. . ."

Other conclusions reported by the two investigators are as follows:

"The spasticity is of a reflex nature and is not present in the completely paralyzed muscle.

"The spasticity can be stronger than the voluntary contraction that the muscle is able to perform, as adjudged by action currents.

"When the strength of the voluntary contraction increases through treatment, the spasticity decreases.

"Our investigation has shown that spasticity is present in infantile paralysis. Whether the spasticity is actually responsible for weakening of the muscle or whether it is a phenomenon which is merely another consequence of the disease is a question which cannot be answered at the present time."

DESCRIBES SIMPLE BREATHING EXERCISES FOR SWIMMERS WITH SINUS TROUBLE

There is no reason why those who suffer from sinus trouble should be denied the pleasures and health benefits to be derived from swimming, Charles L. Sawin, Indianapolis, declares in an article in the August issue of Hygeia, The Health Magazine in which he describes some simple breathing exercises that will make it possible for one to swim without letting water enter the nose or throat.

"By swimming the crawl, or the breast stroke," he explains, "with your face turned toward the bottom of the pool most of the time you will find that an air pocket can be formed in the nasal passages that will prevent the water from forcing its way into the head, despite the fact that your nose is several inches under the surface. . .

"Suppose you try breathing in the following manner: Inhale quickly through the mouth, place your face in the water, close your mouth and force a slow but steady stream of air out through your nose for the entire time that your face remains under the surface. This steady exhalation prohibits the entry of pool water. Time your breathing so that you lift your face from the water a split second before having completely exhausted your supply of air. If you do not do this, you will find yourself inhaling water, a most painful mistake!

"In order to perfect this rhythm of breathing, stand in shallow water, exhale slowly, turn the head to one side and inhale. Continue this exercise until it is second nature for you to exhale whenever your face is in the water."

If the sinus condition is serious two things should be avoided at all times, Mr. Sawin observes. The victim should not swim or float on his back, because the nose is then in such a position that no precautions can be taken which will keep the water from running down into the sinuses. Diving to any depth exceeding three or four feet should also be avoided, since the increased pressure in deep water tends to irritate the nasal passages. If breathing exercises are too difficult, the author recommends that the swimmer obtain a nose clip, which will keep the pool water out of the sinuses.

For most persons moderation in swimming, as in everything else, is the best course to follow, he advises. "Don't swim until you are completely fatigued," he warns, "exert yourself only to the point where your breathing is slightly accelerated. Try to cover the distance you wish to go without extending yourself. . .

"Leading coaches throughout the country differ on the technic that should be used in the various strokes, just as they differ on training methods for their respective stars, yet there is one point that they all agree on: you must relax in order to swim smoothly and easily."



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PEPTIC ULCER*

AN ANALYSIS OF ONE HUNDRED AND EIGHTY-EIGHT CASES WITH SPECIAL REFERENCE TO HEMORRHAGE

By
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Gadsden, Alabama

Peptic ulcer is the term employed to designate a benign, nonspecific, necrotizing lesion of the gastro-intestinal tract that may occur at any point from the lower esophagus to the ileum.

Peptic ulcer of the stomach and duodenum may be considered to present the same problems in general and accordingly may be discussed simultaneously. Both are subject to the same complications, with the exception that malignant changes rarely, if ever, occur in duodenal lesions, and gastric ulcers of this character almost never produce cicatricial pyloric stenosis. Duodenal ulcer is by nature a chronic disease and is found in individuals who are said to have an ulcer diathesis; the life of such a patient is punctuated throughout with periods of acute ulcer activity as a rule. Gastric ulcer is usually an acute affair in which spontaneous and complete healing is a common termination. However, chronic lesions of the stomach are not rare and in a certain number malignant degeneration will occur.

The lack of an adequate etiologic concept is attested by many voluminous contributions which have as yet failed to suggest an infallible premise on which the cause of such ulceration may be universally based. Morlock[1] has pointed out certain factors, one or more of which are contributory to production in the majority of cases of peptic ulcer. These are:

1. Acid erosion factor.
2. Infection.
3. Traumatic and mechanical factor.
4. Neurogenic factor.
5. Nutritional factor.

The incidence of peptic ulcer in the general population is variously reported to be from 5 to 12 per cent.[2,3,4] It is said to be responsible for 90 per cent of the cases of chronic recurrent dyspepsia.[3] The incidence of duodenal ulcer is consistently higher than gastric ulcer in clinical studies. The average ratio is 10:1. In an analysis of the necropsy records in 339 cases of peptic ulcer Portis and Jaffe[2] report that there were 185 cases of gastric ulcer and 154 cases of duodenal ulcer. Eusterman[5] in a discussion of their presentation expressed the opinion that the consistent discrepancy between vital and postmortem statistics with regard to incidence is chiefly due to the fact that duodenal lesions more frequently produce disturbances of sufficient degree to cause a patient to seek medical relief than do gastric lesions, and gastric lesions are likely to heal and leave no clinical or roentgenologic evidence of their previous existence.

It is common knowledge that males are affected with peptic ulcer much more often than females, the ratio being 4:1.[2,3] The initial clinical manifestations usually occur in

*Read before the Association in annual session, Montgomery, April 21, 1942. From the Guice-Morgan Clinic.

1. Morlock, Carl G.: Peptic Ulcer, M. Clin. North America 23: 913-926 (July) 1939.

2. Portis, S. A., and Jaffe, R. H.: A Study of Peptic Ulcer Based on Necropsy Records, J. A. M. A. 110: 6-13 (Jan. 1) 1938.

3. Eusterman, G. B., and Balfour, D. C.: The Stomach and Duodenum, Philadelphia, W. B. Saunders and Company, 1936.

4. Kruse, Fred H.: The Complications of Peptic Ulcer and Their Treatment, J. A. M. A. 109: 868-874 (Sept. 11) 1937.

5. Eusterman, G. B.: In discussion of reference 4 (vide supra).

people from 25 to 40 years of age, being more frequent in the 25 to 35 year age group.

The symptomatology is generally well recognized. Recurrent postprandial finger-point epigastric pain that comes on when the stomach is empty and is relieved by the ingestion of food or an alkali is the usual story related by one afflicted with the disease. The location of the pain may not be the same in all individuals. Certain patients will complain of pain in the lower mid-dorsal region instead of epigastric discomfort but even here the prandial relationship is undisturbed. The various complications to which peptic ulcer is subject may produce an alteration in the character of symptoms. Patients with duodenal ulcer may have a seasonal periodicity of activity not shared by those with gastric ulcer. The former have difficulty more often in the spring and fall of the year.

In treatment one attempts to avert the ill effects of gastric hyperacidity by the use of an antacid (such as colloidal aluminum hydroxide or one of the trisilicate preparations) and the frequent feeding of bland foods. An antispasmodic (trasentin* or tincture of belladonna) is used to relieve spasm produced in the gut wall adjacent to the area of ulceration. Perhaps one of the most important measures is the use of a sedative to calm the psyche of the patient. Peptic ulcer can not be treated by the internist alone. Skilled surgical aid is required in the management of the majority of complications. Uncomplicated ulcer is totally a medical problem whereas ulcer with some complications is a medico-surgical problem demanding close and comprehensive study and action by the combined services.

Peptic ulcer is a disease that is more frequently attended by complications than almost any other. The long years of recurrent activity are no doubt largely responsible for this fact. Kruse[4] lists some degree of pyloric obstruction as being the most commonly encountered complication. In his series it was responsible for 51 per cent of the complications. Hemorrhage and perforation share an approximately equal incidence, having been present in 28 per cent and 20 per cent respectively in the series just mentioned. Penetration and intractable pain are encountered with relative infrequency. Marked or recurring pyloric stenosis, perforation and intractable pain are complications that must be treated surgically. Active hemorrhage is preferably treated medically. Individuals who bleed while under adequate medical management, those in the arteriosclerotic age group, and those who have had more than one hemorrhage should have a partial gastrectomy when active bleeding has been controlled by medical means. The danger of such an operation in skilled hands is not as great as that of a subsequent massive hemorrhage under either of the circumstances just alluded to. Early surgical interference is required in the few cases where medical measures do not suffice to control active bleeding. Penetration should be treated medically with frequent surgical consultation. A penetrating lesion may heal spontaneously, or go on to frank perforation, or an abscess may develop. Surgical intervention will obviously be required in either of the latter possibilities.

*Trade name of Ciba Pharmaceutical Products Inc., for diphenylacetyldiethylaminoethanol hydrochloride.

ANALYSIS OF CASES

From January 1937 to January 1942 one hundred and eighty-eight (188) cases of peptic ulcer were seen by the medical or surgical services of our clinic. The clinical impression in each case was confirmed by x-ray examination, operative findings, or both. One hundred-twelve (61 per cent) of the cases were unassociated with any complication. In the 76 remaining cases there was some complication present. The average age for the series of cases was 38 years, with the youngest and oldest patient being 21 and 64 years of age respectively.

The focal incidence of ulceration may be seen in table 1. The preponderance of post-pyloric lesions to prepyloric lesions (ratio 13:1) was to be expected in this purely clinical survey.

Table 1.—Focal Incidence of Peptic Ulcer

Location	Number	Per Cent
Duodenum	171	90.9 %
Stomach	13	6.9 %
Pyloric Ring	4	2.2 %
Gastrojejunum	0	0.0 %
Total	188	100.00%

From table 2 it will be seen that there were slightly less than four times as many males as females in the series as a whole while five times as many males had prepyloric ulcer. The infrequency with which

the disease is encountered in the colored race in this section of the United States is discernible. The incidence in the Negro in the northern part of this country is much higher.[2,5]

Table 2.—Sex and Race Distribution of Peptic Ulcer

	WM	WF	CM	CF	Total
Duodenal Ulcer	126	42	2	1	171
Gastric Ulcer	10	2	1	0	13
Pyloric Ulcer	4	0	0	0	4
Total	140	44	3	1	188

Of the 76 patients with some complication there were 30 with hemorrhage and 29 with perforation. Of the entire series then, 16 per cent suffered hemorrhage and 15.3 per cent perforation. This is not as great an incidence of either of these complications as was cited by Kruse.[4] The seven (3.7 per cent) in this series with pyloric stenosis fall far short of the 51 per cent who had this complication in his series. The fact that patients with slight gastric retention after six hours and those with recurring edematous obstruction have been excluded as cases of pyloric stenosis in this series on the basis that the stenosis was not cicatricial in character probably accounts for the wide discrepancy. There were 7 patients who exhibited a penetrating lesion. Three cases considered to be intractable to medical management had no evidence of penetration, nor were any other of the complications present.

Table 3 shows the distribution of the various complications as to sex. It is seen that 62 of the 76 patients with some complication were males. The proportion of males to females remained approximately the same in the complicated cases as in the group as a whole. Hemorrhage was by far the most frequent complication suffered by women in that it occurred in 17 per cent of them as compared to 6.6 per cent with pyloric stenosis, 4.4 per cent with perforation, and 2.2 per cent with intractable pain. There was no penetrating lesion among the females of this series. Perforation was the most common complication experienced by males, having been encountered in 18 per cent of those of this sex. The remaining complications that occurred in males in order of their frequency were hemorrhage (15 per cent), penetration (4.4 per cent), pyloric stenosis (2.8 per cent) and intractable pain (1.3 per cent).

Table 3.—Sex Distribution of the Various Complications

	Perf.		Penet.		Int. Pain		Hemorr.		Pyl. Obst.		Total
	M	F	M	F	M	F	M	F	M	F	
DU	22	2	6	0	1	1	19	8	4	3	66
GU	2	0	1	0	1	0	3	0	0	0	7
PRU	3	0	0	0	0	0	0	0	0	0	3
Total	27	2	7	0	2	1	22	8	4	3	76

Of the 29 patients with perforated ulcer the perforation was closed in 27. Of this twenty-seven, three, whose perforation had been present for more than 12 hours before admission to the hospital, died. One patient died without operative interference as his apparently moribund condition on admission was never sufficiently counteracted to permit surgical intervention. The mortality rate for the group with perforated peptic ulcer was 13.7 per cent; 2.1 per cent of the 188 cases died as a result of this complication.

Six of the 7 cases with a penetrating lesion were treated medically with good results. In one case a partial gastrectomy was done. None of those with a penetrating lesion is known to have suffered a perforation or any other complication subsequent to penetration.

The 3 patients with intractable pain were subjected to partial gastrectomy with no mortality. One patient developed a marked anemia that persisted for several months after the operative procedure. The anemia was not associated with melena; it was hypochromic in character and not the hyperchromic type such as has been reported to follow partial gastrectomy occasionally.

Six of the 7 patients with pyloric stenosis were afforded mechanical relief through some surgical procedure. In the remaining case, surgery will soon be required in spite of the patient's determination to avoid it. There was no death in this group. The general rule followed by the surgeons in our clinic is to perform a posterior gastro-enterostomy if the stomach acids are low, or absent, and the lesion appears to be old, inactive and burned out as is usually the case with those who suffer this complication in the latter decades of life. If the acids are high and there is clinical evidence of relatively recent activity, a partial gastrectomy is done because gastrojejunal ulceration and reactivation of the original lesion occur too often for comfort when gastro-enterostomy is employed under such circumstances to relieve pyloric stenosis.

Hemorrhage occurred in 30 cases. Of these, 27 had a duodenal lesion, and a gastric lesion was present in 3. Hemorrhage as a complication was exhibited in 15.8 per cent of all the duodenal ulcers and 23 per cent of all the gastric ulcers in this series.

Table 4.—Sex Incidence of Bleeding Ulcer

	WM	WF	CM	CF	Total
DU	19	7	0	1	27
GU	2	0	1	0	3
Total	21	7	1	1	30

From table 4 it will be seen that the preponderance of males over females with hemorrhage was not so great as when the series is considered as a whole. The ratio of males to females with hemorrhage is 2.7: 1; for the group as a whole it is 4:1.

Table 5.—Bleeding Cases Grouped as to Decade in Which Hemorrhage Occurred

Decade	20-30	30-40	40-50	50-60	60-70	Total
DU	5	9	12	0	1	27
GU	0	0	1	2	0	3
Total	5	9	13	2	1	30

From table 5 it will be seen that a greater number of patients with duodenal ulcer and hemorrhage were in the 40 to 50-year decade than in any other, and that all of the patients with bleeding gastric ulcer were over 40 years of age. This is of importance in view of the fact that arteriosclerosis is usually present at this time of life. Arteriosclerotic vessels lose their elasticity, and frequently fatal hemorrhage results from an inelastic vessel the wall of which has been eroded by an ulcer. It is obvious that those with bleeding gastric ulcer were all in the age where cancer is quite prevalent.

Nine patients bled more than one time, a total of 43 hemorrhages having occurred. Table 6 reveals that the greatest number of hemorrhages occurred in the 30 to 35-year age group. There was one case, a 31 year old male who bled 6 times. He consented to have a partial gastrectomy done only after the sixth hemorrhage in spite of the fact that two of the previous hemorrhagic episodes were nearly fatal. It is interesting that whereas there were more patients who suffered hemorrhage as a complication in the 40 to 50-year age group the total number of hemorrhages was greatest in the 30 to 35-year age group. Constituents of the older age groups do not often survive more than one hemorrhage.[6]

Table 6.—Correlation of the Number of Hemorrhages with the Age of Occurrence

Age		20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	Calculation
No. of Hemorrhages	1	2	1	2	6	2	5	0	2	1	21
	2	1	0	4	0	3	0	0	0	0	16
	3	0	0	0	0	0	0	0	0	0	00
	4	0	0	0	0	0	0	0	0	0	00
	5	0	0	0	0	0	0	0	0	0	00
	6	0	0	1	0	0	0	0	0	0	6
Calcu.		4	1	16	6	8	5	0	2	1	43

The bleeding was chronic or mildly acute in 10 cases and severe enough to produce variable degrees of shock in the remaining 20. The average age of those with chronic bleeding was the same as that for those whose bleeding was acute, 38 years. The youngest patient with hemorrhage was 21 years of age and the oldest was 64 years of age.

Eight patients, or 26.6 per cent, of those with hemorrhage were treated surgically. This constitutes 17 per cent of the entire number of patients that required surgical intervention. Transfer to the surgical service was not effected until active bleeding had been controlled, except in two cases of chronic gastric ulcer. In both of these a penetrating lesion was associated with hemorrhage, and bleeding and pain continued in spite of medical treatment. One of these two patients also had a chronic duodenal ulcer with incomplete pyloric stenosis. The average age of those on whom an operation was done was 41 years; the youngest and oldest were 31 and 57 years of age respectively. The operative procedure employed in each case was partial gastrectomy.

The remaining 22 patients with bleeding ulcer were treated medically. Until November 1938, bed rest, starvation, sedation, parenteral fluids and blood transfusions comprised the routine method of management. Since this time, due to Meulengracht's report,[7] starvation has been abandoned in favor of hourly milk feedings which are begun as soon as the patient has recovered from shock and nausea. After 24 hours, fruit juice, cereal, soft cooked eggs and custards are given at frequent intervals throughout the day. Within 48 to 72 hours, puree vegetables and scraped meat are added to the dietary. Transfusions are given when indicated. Barbiturates by rectum and opiates hypodermically are used to allay anxiety.

6. Blackford, J. M., and Williams, R. H.: Fatal Hemorrhage from Peptic Ulcer, J. A. M. A. 115: 1774-1779 (Nov. 23) 1940.

7. Meulengracht, E.: Treatment of Hematemesis and Melena with Food. The Mortality, Lancet 2: 1220-1222 (Nov. 30) 1935.

Lineberry and Issos[8] are opposed to the use of opiates in bleeding peptic ulcer on the ground that they may provoke further vomiting, and in patients who are sensitive to this class of drugs such may result. Colloidal aluminum hydroxide is used routinely as an antacid. For a time a continuous intragastric drip of colloidal aluminum hydroxide was tried as suggested by Woldman.[9] The presence of the tube is unpleasant and the majority of the patients complained that it caused them to vomit. The drip method has been discarded and one teaspoonful is given by mouth hourly day and night during the period of active bleeding, after which the frequency of administration is reduced. For several weeks three equally spaced night doses are given in an effort to prevent a nocturnal rise in gastric acidity. Iron is given by mouth when feedings are started. In addition to the many obvious advantages of the plan of medical treatment employed for bleeding peptic ulcer since November 1938 the average hospital stay of patients with this condition has been reduced from 19 to 12 days.

There was one death in the cases complicated by hemorrhage. This occurred in a patient who had had a partial gastrectomy for an actively bleeding gastric ulcer. The postoperative course was uneventful. He died at his home with hematemesis and melena several weeks after his discharge from the hospital. The history subsequently obtained indicated that he apparently died as a result of massive hemorrhage from a gastrojejunal ulcer. The mortality rate for all cases with hemorrhage was 3.3 per cent. There was no death in any patient with a bleeding duodenal ulcer. The mortality in bleeding gastric ulcer was 33 per cent for this series.

In several cases of bleeding peptic ulcer the blood urea nitrogen was determined at frequent intervals in an attempt to use the values obtained prognostically. This procedure has been done in so few cases in the present series that any opinion expressed as to its prognostic merit would be valueless. It appears from the report of Johnson[10] that azotemia following hemorrhage into the alimentary tract occurs only when there is a temporary or permanent reduction in renal function, and Jones[11] is of the opinion that very little significance may be attached to the blood urea nitrogen level as regards prognosis. Layne and Moir[12] consider this so-called alimentary azotemia in their discussion of extrarenal uremia and believe that it represents a non-fasting level of the metabolites involved. In a recent article Schiff, Stevens and Moss[13] state that a blood urea nitrogen concentration of less than 30 mg. per cent in patients with hemorrhage from peptic ulcer suggests a good prognosis whereas a value of 50 to 70 mg. per cent indicates a fatal outcome in from one-third to two-thirds of the cases.

No studies relative to the vitamin C content of the blood were carried out on any patient in this series. Deficiency of this factor was formerly thought to be a plausible explanation for the tendency to bleed exhibited by certain patients with peptic ulcer, especially those who had long remained on a generally inadequate diet. The evidence offered by Moss and his collaborators[14] rather conclusively demonstrates that a deficiency of vitamin C plays no role in bleeding of this kind.

COMMENT

Peptic ulcer is a commonly encountered disorder attended frequently by one or more complications. In the present series there was some complication in 39 per cent of the 188 cases.

The management of uncomplicated peptic ulcer is a problem for the internist. Those cases complicated by perforation, intracta-

8. Lineberry, E. D., and Issos, D. N.: Treatment of Massive Hemorrhage from Duodenal or Gastric Ulcer, South. M. J. 30: 1228-1229 (Dec.) 1937.

9. Woldman, E. E., and Rowland, V. C.: A New Technique for the Continuous Control of Acidity in Peptic Ulcer by the Aluminum Hydroxide Drip, Am. J. Digest. Dis. & Nutrition 2: 733-736 (Feb.) 1936.

10. Johnson, J. B.: The Pathogenesis of Azotemia in Hemorrhage from the Upper Gastro-Intestinal Tract, J. Clin. Investigation 20: 161 1941.

11. Jones, Chester M.: Gastroenterology. A Review of Literature from July 1940 to July 1941, Arch. Int. Med. 68: 763-845 (Oct.) 1941.

12. Layne, J. A., and Moir, W. W., Jr.: Extrarenal Uremia, Internat. Clin. IV: 182-203 (Dec.) 1941.

13. Schiff, Leon; Stevens, R. J., and Moss, H. K.: The Prognostic Significance of the Blood Urea Nitrogen Following Hematemesis or Melena, Am. J. Digest. Dis. 9: 110-113 (March) 1942.

14. Moss, H. K.; Schiff, L.; Stevens, R. J., and Rich, M. L.: The Blood in Cases of Hematemesis and Melena with Reference to Factors Influencing Hemorrhage, Am. J. Digest. Dis. 7: 490, 1940.

ble pain or complete pyloric stenosis must be treated surgically. Those cases in which penetration or bleeding occur as a complication demand close cooperation between the internist and surgeon. In this analysis surgical intervention was required in 23.9 per cent of the cases. This is approximately the same incidence as was reported by Morgan[15] after a study of our records early in 1941. This incidence of surgical intervention agrees in general with that reported from other clinics.[16,17]

Peptic ulcer of the stomach should be treated surgically if there is clinical or roentgenologic evidence of persistence of a lesion after 3 to 6 weeks of adequate medical therapy; the danger of an impending or already present malignant change is too great to temporize beyond this point. In this study all of the cases seen early apparently healed completely after 3 to 4 weeks of medical therapy. Those cases that required surgery were complicated by hemorrhage, perforation or intractable pain when first seen.

Peptic ulcer of the duodenum is by nature chronic and refractory to permanent cure by medical means, although, as is true of diabetes, it may be controlled if the patient is willing to adhere to the prescribed regimen. In the duodenum the chronicity of a lesion per se is not an indication for surgery. The relative indications for surgery for chronic duodenal ulcer are (1) patients of low economic or intellectual level in whom adequate medical treatment is impossible and (2) patients who cannot continue the particular work for which they are fitted and at the same time adhere to an ulcer regimen. The absolute indications for surgery in chronic duodenal ulcer are reserved for cases in which perforation, complete pyloric stenosis or intractable pain occur.

Perforation occurs with approximately the same frequency as hemorrhage as a complication of peptic ulcer but its presence affects the mortality rate much more profoundly as has been pointed out by Portis and Jaffe.[2] There were 30 cases with hemorrhage in the present analysis. One (3.3 per cent) of these died which made the mortality rate for the series from hemorrhage 0.5 per cent. Of the 29 patients with perforation, 4 (13.7 per cent) died; the mortality rate for the series from perforation was 2.1 per cent. The total mortality for the entire series was 2.6 per cent. Pyloric stenosis, intractable pain and penetration accounted for only 17 of the cases studied and did not contribute to the mortality.

15. Morgan, J. O.: Surgery in Peptic Ulcer, South. Surgeon 10: 575-588 (Aug.) 1941.

16. Cleveland, W. H., and Walters, W.: Ulcer and Carcinoma of the Cardiac End of the Stomach, Proc. Staff Meet. Mayo Clinic 15: 669-672 (Oct. 16) 1940.

17. Marshall, S. F.: The Technique of Subtotal Gastrectomy, S. Clin. North America 19: 607-627 (June) 1939.

SUMMARY

The characteristics of peptic ulcer as a disease and the principles of its treatment are briefly reviewed.

One hundred and eighty-eight cases are analyzed with special consideration being given to those in which hemorrhage occurred as a complication.

DISCUSSION

Dr. E. D. Lineberry (Birmingham): Dr. Finney has given us an excellent review and analysis of his cases of peptic ulcer. Since he has dealt largely with the complications, I shall do likewise. During the past ten years 86 patients with massive hemorrhages from peptic ulcer have been treated by the staff of the Norwood Clinic. Two patients died as a result of hemorrhage, one following surgical intervention after his condition had become desperate. There were six cases of gastrojejunal ulcer in the series. The method of treatment was essentially that as outlined by Dr. Finney. We have had no experience with the aluminum hydroxide drip method. During the past three years we have not used alkalies of any kind if the patient remained free of pain without them. The majority of patients do remain free of pain following hemorrhage if they receive frequent small feedings of bland foods, particularly milk. Two of our cases were subjected to surgical treatment after they had recovered from the hemorrhage. We do not consider recurring hemorrhages per se as an indication for surgical intervention, particularly if the interval between attacks is fairly long and if the patient's general health remains satisfactory between them. No surgical procedure for the treatment of peptic ulcer has yet been conceived which will insure against the development of further complications.

Three cases of gastrocolic fistula secondary to peptic ulcer have been treated surgically by us during the past ten years. One died. Two had had previous gastric surgery and one had had no previous operations. In each, the fistula had developed spontaneously, probably as a result of a perforating ulcer which had become adhered to the colon. The patient who died had had symptoms of gastrocolic fistula for eight months, chiefly diarrhea, and consequently had developed malnutrition and pellagra. The repair of the fistula was extremely difficult because of the

surrounding inflammatory reaction and scar tissue.

During the ten-year period, 61 patients with perforated peptic ulcer were treated surgically. Resection of the ulcer was performed if no complications existed. The uncorrected mortality rate was 34.2 per cent. After corrections were made, because of delay of operation longer than 24 hours after the perforation or other complications, the mortality rate was 11.1 per cent. Among the complications were carcinoma of the stomach, ruptured gangrenous appendix, delirium tremens and previous gastro-enterostomy which necessitated resection at the time of the operation for the perforation.

In Dr. Finney's series of cases of peptic ulcer he found complications resulting from the ulcer in 39.0 per cent. A higher incidence of complications has been reported elsewhere, but it is still too high for the average ulcer population. It has been definitely established that about 10 per cent of adult males over 25 years of age who come to autopsy had either an active or healed peptic ulcer. If 40 per cent of these developed complications from the ulcer, one man out of every 25 would be destined to have pyloric obstruction, a perforated ulcer or a massive hemorrhage from his stomach or duodenum. This statistical error can probably be accounted for by the fact that the majority of persons with uncomplicated peptic ulcer do not go further than their family physician for aid, while those with complications do. I believe Dr. Finney agrees with me that peptic ulcer is a relatively benign lesion which tends to recur and heal spontaneously. The mortality rate following perforation is in inverse ratio to the number of hours of delay before the perforation is closed surgically, but, as a rule, moderation in all things is the watchword in the treatment of peptic ulcer. I agree with the ideas of Dr. Finney regarding more liberal feeding. Persons with peptic ulcers should keep themselves in a state of good nutrition. This cannot be done by eating only alkaline powders, milk and crackers.

Aviation Medicine—The sinister figure of death moves across Europe and Asia in the shadow of turbulent clouds of war. In his haste the cloak of death merely touches an arm or leg here, or brushes a cheek there, leaving in its wake pain, torture and the suffering of thousands of lives. One cannot remain complacent in the comparative security of the great strength and resources here. War knows no bounds. It leaps from country to country with the greed and abandon of fire in dry prairie brush. To quench this holocaust, the otolaryngologist must help. He, too, must fight. His responsibility, his duty, may be expressed in terms of elementary arithmetic. Cold, grim, figures in simple addition, which mean that more doctors, plus more pilots, plus more planes, plus more victories will equal the sum of concerted effort and sacrifice. Too often there has been too little—too late. There never can be "too much —now"!—*Kos, Texas M. J., August* 1942.

BLOOD AND BLOOD SUBSTITUTE IN HEMORRHAGE AND SHOCK*

By

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The possibility of transfusing blood from one human to another has been the investigation of medical men for centuries. The development in recent years of successful methods for accomplishing this feat has been remarkable. The different blood groups were discovered in 1901 by Landstein. Since then blood transfusions have been given with marked decrease in dangerous reactions. The first World War showed the tremendous importance of combating hemorrhage and shock with blood transfusions.

Blood transfusion as a measure of therapeutic value has become a standard procedure in all hospitals. All blood transfusions must be preceded by certain laboratory work: (1) typing the patient, (2) typing the proper donor, (3) careful testing for compatibility, and (4) performing Kahn or similar tests. These procedures are essential in avoiding transfusion reactions and even when rapidly performed consume one or more hours, a delay that may prove fatal in an emergency. The delay is a serious drawback in blood transfusion as an emergency measure. The unavoidable delay in blood transfusion brought out the need of a good blood substitute which has been the subject of much investigation. The ideal substitute should be a fluid which is readily available, is stable over a long period of time, remains in the circulation, and is devoid of reaction or ill effects.

Crystalloid solutions have played the most important role as a blood substitute. They are readily available, innocuous, economical and easily prepared. However, they are frequently ineffective because under certain conditions they leave the circulation and become extravascular fluid. It was this fact which led to the use of colloidal solutions. Various fluids containing non-diffusible solutes such as gum acacia, hemoglobin and bovine serum have been or are being tried. These fluids may have notable advantages from the standpoint of availability and low cost. In general, however, they result in the

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introduction of foreign substances into the circulation and no one of them has yet passed successfully through the stage of clinical proof of efficacy and harmlessness.

In 1918 Captain Gordon R. Ward, a British Medical Officer, made the observation that death from hemorrhage was not due to the lack of hemoglobin but the loss of fluid, and therefore the treatment resided in the replacement of the depleted fluid. For this purpose, the administration of citrated blood plasma which could be preserved easily and injected safely was suggested. He pointed out that one of the chief drawbacks with whole blood transfusions is that the erythrocytes of the donor may be hemolized by the recipient's plasma. In 1936 J. Elliott suggested the use of untyped serum or plasma for the treatment of surgical, obstetric and traumatic shock where blood transfusions were indicated. He pointed out that the need for replacing depleted blood volume in shock is more important than supplying additional red blood cells, and the maintenance of osmotic pressure is a function of the plasma proteins. Since 1936 much experimental and clinical work has been made in blood. Some valuable information was obtained during the recent civil war in Spain. Pooled blood banks have been established. It is generally agreed that liquid plasma or plasma in some other state is the best substitute for whole blood in restoring blood volume.

Shock may result from severe injuries, burns, severe infections, extensive operations and other conditions. The loss of blood, prolonged exposure to cold, emotional stress, and physical and nervous exhaustion may all be contributing factors. The cycle of deranged function that characterizes the state of shock essentially involves injury to and loss of tone of the blood capillaries, loss of fluid and plasma proteins through the capillaries, and tissue oxygen deficiency. Unless this vicious circle can be broken, circulatory failure and death ensue. In the cycle of shock, the most important factor to be corrected is the depleted volume of the circulating fluid. The volume must be restored to normal as quickly and maintained as nearly normal as possible.

In severe hemorrhage, in which all the constituents of the blood are lost, whole blood is the ideal restorative fluid. Fresh blood is preferable to preserved blood. Even with the use of stored blood there still remains an unavoidable delay because of the necessity for typing the patient, performing compatibility tests and filtering the stored blood. This delay is a serious matter, especially if shock is present. It is not advisable to use whole blood that is over five days old. In extensive hemorrhage there is shock. The decrease in erythrocytes is usually not serious. The vital factor is to restore blood volume and prevent capillary stasis. The restoration of the blood volume with an adequate quantity of plasma or serum will supply a circulating medium capable of transporting the remaining red blood cells, will elevate the blood pressure and prevent to a satisfactory degree capillary stasis and tissue anoxia. Thus there will be provided a sufficiently adequate peripheral circulatory mechanism to carry on the vital functions of the body until whole blood can be obtained and administered.

The important problem in treating shock is to put into the circulation a fluid which will remain in circulation and will help break the vicious cycle that is prolonging the state of shock. If shock is from extensive hemorrhage, plasma or serum will not be sufficient but will be of great benefit in an emergency until whole blood can be given. In shock where hemorrhage is not a factor, there is a hemoconcentration. This is brought about by the mechanism of shock. Whole blood is not the ideal agent here due to the undesirable addition of red blood cells to the already concentrated blood. Sodium chloride and dextrose solutions, which are readily available, do not produce a permanent increase in the circulating blood volume and do not elevate the blood pressure to any permanent extent. In the majority of cases they rapidly leave the circulation. Normal saline and dextrose solutions will often relieve primary shock if given early. The ideal therapeutic agent would be one that would increase rapidly and permanently the blood volume. Plasma or serum properly prepared and administered is the ideal therapeutic measure for correcting the depleted circulating fluid.

The patient's condition should determine if the serum or plasma should be given concentrated, normal or diluted. As nearly normal as possible should be the aim. The estimation of the hemoconcentration or hemo-

dilution may afford useful indications that are required. A rising hemoglobin percentage or an increase of the cells to plasma ratio indicates hemoconcentration due to the loss of plasma proteins through the capillaries. If shock is associated with dehydration, which often occurs in burns and military wounds, diluted serum or plasma in large volumes is indicated. If shock is complicated with concussion, as in head injuries, hypertonic concentrated plasma or serum is indicated, which is supposed to withdraw fluid by osmosis from the central nervous system.

It is more economical to keep plasma in the liquid state. Liquid plasma can be preserved for months without refrigeration. Preservation of plasma by drying presents great advantages where storage, transportation and concentration is desired, as for war purposes. Drying from the frozen state is the method of choice. The armed services have agreed that human plasma is the best substitute for whole blood. A compact package consisting of distilled water, dried plasma and rubber tubing with needle has been devised. This may be given quickly in the field under combat conditions and aboard ships in naval engagements.

Although human plasma has proved to be an adequate therapeutic agent for a blood substitute, investigators are still working to find other substitutes that are more readily available and equally as effective. Some of these substitutes are human albumin, bovine plasma, bovine albumin, isinglass or fish gelatin and pectin. The reactions from bovine plasma have been very high and severe. The results reported preclude the use of bovine plasma as a satisfactory blood substitute. Isinglass or fish gelatin and pectin are in the experimental stages. Human albumin has been tried experimentally and clinically and offers encouraging evidence. Bovine albumin has offered favorable encouragement. It represents an important approach to the problem of providing cheap and readily available blood substitute.

In conclusion, whole blood is the ideal restorative agent in extensive hemorrhage where there is a loss of all the constituents of the blood. Administering whole blood requires time-consuming laboratory tests, leading to an unavoidable delay which may become a serious condition with the patient. Plasma should be given during this delay to restore the blood volume until suitable blood can be obtained.

Human plasma is the ideal therapeutic agent in shock not associated with extensive hemorrhage. It is readily obtained from citrated blood by the simple process of centrifugation. It is always ready for immediate use, safe and usually free of reaction. The average dose is two hundred and fifty (250) to five hundred (500) cc. Very large and repeated doses at frequent intervals can be given. It does not add to the concentration of the red blood cells, and can be readily transported. Plasma corrects the depleted blood volume, raises blood pressure, and prevents capillary stasis and tissue anoxia.

PRIMARY DYSMENORRHEA*

By

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Dr. C. Jeff Miller has said that probably nine-tenths of all women suffer some pain or discomfort at menstruation.[1] Forty years ago it was rather generally believed that if young girls would leave off constricting corsets, and get an adequate diet and proper exercise that the incidence of painful menstruation would be greatly decreased. Corsets have been largely discarded by adolescents, diets are more adequate, and exercise, while not sufficient among high school and college students, it is, no doubt, more nearly so than it was a generation ago.

But the incidence of dysmenorrhea does not seem to have decreased. At Goucher College from 1900 to 1907, of 3,077 students, 7.1% suffered from painful menstruation.[2] At Birmingham Southern College in 1941, of 123 freshman girls examined, 10% gave a history of regular loss of time from classes because of dysmenorrhea, and an additional 9% was absent occasionally. At Huntingdon College 21% of 299 suffered from dysmenorrhea and at Montevallo 12% of 875 girls. At Woodlawn High School, of 374

*Read before the Association in annual session, Montgomery, April 21, 1942.

1. Miller, C. Jeff: Gynecology, St. Louis, The C. V. Mosby Company, 1931.

2. Van Duyne, Elizabeth: Some Observations on Dysmenorrhea at Goucher College, Am. J. Obst. & Gynec. 9: 234-239, 1925.

girls, 18% must be absent from class. An interesting contrast to this last figure is furnished by the fact that among 125 students at the Alabama Training School for Girls there has been only one case of dysmenorrhea during the past year. The girls in the two groups are of the same age, and while the students at the training school are wards of the state, because of delinquency, only one of them has ever been pregnant. These figures taken from schools of the state indicate that painful menstruation continues to be common among young women (Table 1).

TABLE I

INCIDENCES OF DYSMENORRHEA IN SOME COLLEGES AND SECONDARY SCHOOLS OF ALABAMA

Institution	Number of Students Included in Study	Number Losing Time From Class For Dysmenorrhea	Per Cent Losing Time From Class For Dysmenorrhea
Birmingham Southern College Freshmen	123	23	19
Huntingdon College	299	63	21
Alabama College	875	104	12
Woodlawn High School	374	67	18
State Training School for Girls	125	1	8
Total	1796	258	14.3

This paper has to do with a brief discussion of the present concepts and treatment of primary dysmenorrhea, together with a report of 100 consecutive cases of painful menstruation of the essential type seen in private practice.

ETIOLOGY

The cause of dysmenorrhea is still undetermined. It has been thought that the pain was due to an obstruction of the menstrual flow in the cervical canal, that it was due to hypoplasia of the uterus, or that it had a psychogenic basis. In recent years attempts have been made to prove that the cause is an endocrine imbalance. This imbalance has been thought to influence the character of uterine contractions and so to cause pain. Experimentally it has been shown that in the human uterus contractions are irregular and of small amplitude during the follicular phase of the cycle (pre-ovulatory). With the advent of the corpus luteum phase (post-ovulatory), contractions become more regular and of greater amplitude.[3,4] Beyond these simple facts there is no agreement.

Bickers has an interesting theory that the pain of dysmenorrhea is due to tetany of the uterus with strong contractions superimposed.[5] He believes the tetany may interfere with the blood supply of the myometrium and likens the dysmenorrhea to the pain felt when the muscles of the forearm are exercised after a turniquet has been applied. He has some experimental evidence in support of the theory but this needs further verification.

Since the influence of progesterone on the uterus is necessary for contractions of greater force and amplitude, it has been held that dysmenorrhea occurs only after a cycle in which ovulation has taken place.[4,6,7] However it has been shown that there is no distinctive endometrial pattern in dysmenorrhea, and that in a number of these cases of severe menstrual pain uterine scrapings obtained before the period show an absence of the secretory stage indicating that ovulation has not occurred.[8]

It is likely that primary dysmenorrhea is not a clinical entity having one underlying cause. Certainly at the present time there is no explanation of the pain either on an endocrine basis[9] or otherwise that can be generally accepted.

SYMPTOMS

In this group of 100 cases of primary dysmenorrhea reported, only those were included where the pain was severe enough to make rest in bed necessary for a part of most periods. No case was included in which the history indicated, or pelvic examination made without anesthesia showed, an organic lesion which might account for the pain.

3. Moir, C.: Recording Contractions of Human Pregnant and Nonpregnant Uterus, Tr. Edinburgh Obst. Soc. 34: 93 (August) '33.

4. Wilson, Land Zurzrok, R.: Endocrinology, 27: 23, 1940.

5. Bickers, William: Uterine Contractions in Dysmenorrhea, Am. J. Obst. & Gynec. 42: 1023-31 (Dec.) '41.

6. Novak, E.: Some Endocrine Aspects of Primary Dysmenorrhea, Delaware State M. J. 13: 1-9 (Jan.) '41.

7. Novak, E.: Cause and Treatment of Primary Dysmenorrhea, South. Med. & Surg. 102: 177-180 (April) '40.

8. Kotz: Endometrial Patterns in Dysmenorrhea, Am. J. Obst. & Gynec. 37: 116-120 (Jan.) '39.

9. Greenblatt, McCall and Tropin: Oral Progesterone in the Treatment of Dysmenorrhea, Am. J. Obst. & Gynec. 42: 50-53 (July) '41.

10. Fluhmann, C. F.: Endocrinology, 23: 393, 1938.

These 100 women made up 4% of all patients seen during that time. In view of the fact that about 15 to 20% of women suffer with dysmenorrhea, the number coming for treatment seems small. This is probably due to the fact that many women accept the monthly pain as more or less inevitable and perhaps to the impression which they have received that treatment by a physician is not highly successful.

The average age of these patients was 23 years. The youngest was 13 and the oldest 43. Eighty-six per cent were under 30 years of age. Sixty were single and forty married. In 44% of the cases the pain began with the first menstrual period but in a majority the onset of pain was delayed from one to three or more years. While in a few cases dysmenorrhea persists throughout the menstrual life of the patient unabated, in most women there is a distinct tendency toward improvement with time. This is not, as a rule, a gradual improvement but takes place rather abruptly over a period of a few months. The change is more likely to occur in the twenties but may come even in the teens. Because of this tendency for the condition to be self limited it is important that care be exercised in assigning credit for improvement to any given method of treatment without thorough testing.

In addition to this unpredictable but definite trend toward spontaneous improvement with time, relief is, of course, usually afforded by pregnancy and delivery. This is not always true. Eleven of these patients had borne one or more children. In four cases there had been considerable relief from one to 3 years followed by a return of the pain, in one there had been only slight relief and in six delivery was followed by no improvement. In one of these six, subsequent examination made several months after the patient was first seen revealed a small intramural fibroid which may have been the source of her pain. In cases of dysmenorrhea persisting after delivery or beginning in older women, special care should be taken to rule out an organic cause of the pain.

In about half of the women seen, the pain was of a colicky, intermittent nature (55%). Of the remainder it was a constant, dull ache (21%) or an ache with a superimposed cramping (24%). As a rule the pain was severe enough to keep the patient away from her usual activities from one or two hours to one or two days. In a few the pain lasted longer. One woman was in bed a week each month, rest for two days after the period being necessary because of exhaustion.

Nausea and vomiting, migraine headache and symptoms of premenstrual tension were common. More than one patient volunteered the information that a severe attack of migraine at the onset of menstruation would mean little or no dysmenorrhea for her that month. The significance of this observation is not understood but when more is known of the cause of dysmenorrhea, undoubtedly this fact will fit into the picture.

Among these 100 women many gave a history of having had enuresis, temper tantrums, unusual fears and nightmares as children. A surprisingly large number had the habit of biting or picking at their nails. Four had previously had what they called a nervous breakdown. As a group they were definitely less stable than the average patient. To say this no more implies that the pain which these women feel is unreal or exaggerated than to say that nervous tension is a factor in causing gastric ulcer implies that that pain is imaginary.

Previous treatment of these patients ranged from the taking of home remedies and patent medicines to dilatation and curettage. That operation had been done in five cases. Four of the patients received no benefit from the operation and one was partially relieved for three months.

TREATMENT

The most popular treatments for dysmenorrhea, aside from giving analgesics for the immediate attack, fall into three groups; (1) the use of antispasmodics, (2) the use of endocrine products, and (3) treatment by dilatation and curettage.

The antispasmodic most often used is atropin. Fifty-five women in this group received atropin, taking 1/100 gr. three times a day beginning two days before the expected period. Only five stated that they were not helped by the treatment. Thirty reported that they were much relieved and most of them were able to stay at work while taking the drug. In spite of this evidence that atropin is helpful I have yet to see a patient who will continue the medicine for longer than 2 to 5 months. The difficulty

in predicting the onset of the period and the disagreeable side effects make the woman feel that the benefit is not worth the price. Syntropan, a related compound, has been substituted for atropin with few general reactions but this drug is by no means an answer to the question of adequate treatment of dysmenorrhea.

Benzedrine (amphetamine) sulfate is similar in its actions to ephinephrin and is to a certain extent antispasmodic. It has been used by some workers with good results in the treatment of dysmenorrhea.[11] Walter Larkin finds that it is helpful in relieving mild and moderate pain but is useless in cases of severe pain.[12] The results in the cases of this group treated with benzedrine sulfate were in accord with Larkin's. The drug is of considerable value in older women in whom irritability, depression and general malaise preceding and accompanying menstruation are of greater significance than actual pain. Its value lies chiefly in its ability to cause a change in mood, making the woman feel more optimistic and energetic. It should be begun two days before the expected period and continued during the first and second day of menstruation, 10 to 15 mg. being given during the early morning. As an idiosyncrasy to the drug is not uncommon the patient should first be given small trial doses. It should be remembered that it may be habit forming.

Although the treatment of dysmenorrhea with endocrine products has a great appeal for the physician, until the cause of the condition is known, this treatment, as well as all other, will remain more or less empirical. Many of the endocrine products have been advocated for treatment of the pain but those advanced most often are the estrogenic substances, progesterone and testosterone proprionate.

Theoretically the rationale for giving estrogenic substance is the belief that it causes growth in cases where there is hypoplasia of the uterus, or that it inhibits ovulation and so produces bleeding which is not a true menstruation and by some workers is said to be painless. If the preparation is used for hypoplasia, it is given throughout several cycles, except during the time of menstruation, small doses by mouth being used. Kurzrok estimates that 15 to 20% of patients treated by this method are helped. The results are about the same when 50,000 I. U. are given intramuscularly on the 7th and 11th day of the cycle in an attempt to prevent ovulation, although Kurzrok does not believe relief is dependent upon the production of a sterile cycle.[13]

Progesterone, which has been thought to quiet uterine contraction, has been used in the treatment of dysmenorrhea on that basis. It is not an established fact that contractions are quieted by the product and certainly treatment with progresterone has been disappointing in the hands of many workers.[14] Greenblatt found that by giving the oral preparation 50% of 64 cycles occurring in 30 patients were relieved.

Novak believes that best results in the relief of dysmenorrhea are obtained by the use of testosterone proprionate which he gives in 10 mg. doses two or three times a week.[6]

In this group of 100 women with dysmenorrhea the number of cases treated by each of the above endocrine products has been too small for the results to be significant. The combined results, however, have not been encouraging.

Many of the reports on treatment with endocrines have come from clinics where the preparation has been furnished by the manufacturing house without cost. With the exception of stilbestrol the cost of these various products in the dosage proposed varies from about $4.00 to $25.00 per patient per month. This is in addition to the cost to the private patient of two to ten office visits for the necessary injections each month. When relief from pain is obtained it is usually only for the month in which treatment has been given. These facts tend to make endocrine treatment of dysmenorrhea on its present basis impractical and unsatisfactory.

For many years it has been known that dilatation and curettage of the uterus will give relief in a certain number of cases of

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13. Kurzrok, R.: The Endocrines in Obstetrics and Gynecology, Baltimore, Williams and Wilkins Company, 1938, p. 361.

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dysmenorrhea. Often the relief is temporary but occasionally it is permanent. Attempts have been made to prolong the cervical dilatation and so to make the results more lasting. Hard rubber tubing, gauze packs, rubber and metal bougies and stem pessaries have been used for this purpose. To accomplish this dilatation, Barton Cooke Hirst devised a four-pronged dilator attached to a powerful spring which is a type of metranoikter. The instrument is left in the cervix from 8 to 24 hours following dilatation under anesthesia (Fig. 1).

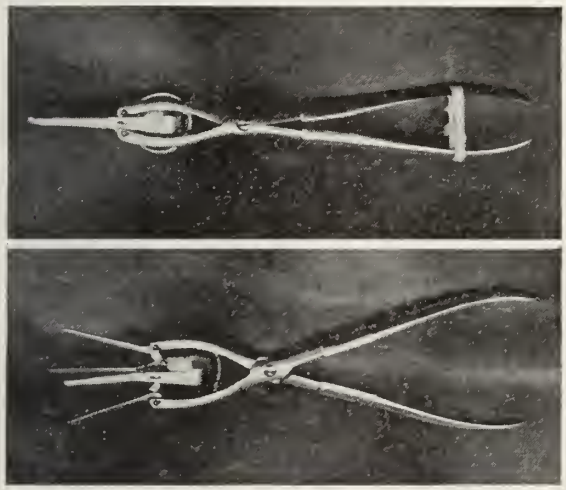


Fig. 1. The Hirst metranoikter. (A) Prongs closed for insertion into cervical canal. (B) Prongs open to position of dilatation, after being placed in the cervical canal.

In this group the metranoikter was used 12 times, all during the last six months. All the patients were nullipara. The oldest was 33 and the youngest 15. With the patient anesthetised by means of sodium pentothal or nitrous oxide, after pelvix examination, the cervix was dilated with a Godell instrument and a curettage done. The metranoikter was inserted and left in place for 24 hours. During this time there was usually moderate pain which was controlled by codeine or morphine. In no case was there evidence of postoperative infection or other complications. The patient left the hospital on the third day and was back at her duties on the fifth or seventh day.

It is too soon to know what the permanent results will be in these cases but the immediate results have been gratifying. In the 12 patients, 47 cycles have occurred following treatment. In 8 women the relief has been complete. In one of the remaining patients the relief was estimated by her as 50% for the first two cycles and 75% for the third and fourth. In a second, the treatment was considered satisfactory by the patient but she experienced about 25% of her usual pain. Pain recurred at the fourth period in one other case. In another patient, on examination under anesthesia, a small ovarian cyst was found which, at laparotomy two months later, proved to be endometrial in origin. After use of the metranoikter at the first operation the patient experienced complete relief for the first period following and 75% for the second. Judging from her history, this woman had a primary dysmenorrhea with additional pain as a result of the endometriosis. This would explain improvement after dilatation, in spite of the persistence of an organic lesion.

Leon Israel, in an as yet unpublished paper, traced the results of the use of the mentranoikter in 55 patients. The operations were done over a 10-year period from 1930 to 1940. Twenty-seven (49.3%) of the patients remained well for a year or longer and nine (16.2%) experienced a recurrence of the pain within a period of six months. Nineteen (34.5%) obtained no relief from the treatment. Dr. Israel makes the statement that the percentage of cures with the metranoikter in these cases is the same as the average percentage of cures with all other methods of prolonged dilatation. Continuing the dilatation of the cervix for several hours increases the value of the ordinary dilatation and curettage and the metranoikter furnishes a convenient method of securing that dilatation.

SUMMARY AND CONCLUSIONS

1. The cause of primary dysmenorrhea is still unknown and the treatment unsatisfactory.

2. A report of the study of 100 cases of primary dysmenorrhea seen in private practice is given.

3. Atropin in the treatment of dysmenorrhea, while undoubtedly of some value, does not give enough relief to make the patient feel that its continued use is justified.

4. Treatment of menstrual pain with endocrine products is expensive. A brief review of the literature indicates that the results at best are temporary and are often disappointing.

5. Prolonged cervical dilatation with the metranoikter in a small series has given excellent immediate results. Use of the in-

strument elsewhere has produced 50% of cures.

6. Prolonged cervical dilatation increases the value of the ordinary dilatation and curettage as a treatment for primary dysmenorrhea and the metranoikter furnishes a convenient instrument for securing that dilatation.

CARCINOMA OF THE BODY OF THE UTERUS*

By

CHARLES L. RUTHERFORD, M. D., F. A. C. S.
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Carcinoma develops more frequently in the uterus than in any other part of the female body; and its incidence is increasing in spite of educational efforts by the American Society for the Control of Cancer and other groups to reach the lay public and to impress on it the importance of being on the alert for any signs or symptoms which might indicate cancer, and the urgent need of promptly consulting a physician in order that the disease may be detected early if it should be present. As a result, the public is getting cancer conscious as evidenced by the fact that a few patients come periodically for medical examinations. In time, I venture to say, more will be coming. Since most of us do some gynecology it is essential that a thorough examination be made of the patient, including, when possible, inspection, palpation, instrumentation and, last but not least, removal of a portion of any suspected lesion for microscopic study. We all have a competent pathologist near now whom we can rely on for a positive diagnosis, and since this service is avaliable each patient is entitled to a pathologic report before treatment.

Cullen, in 1909, in the preface of his splendid work on cancer of the uterus, said, "The number of cases of cancer of the genital tract coming too late for operation is so appalling that the surgeon is ever seeking to devise ways and means by which the dread malady may be more generally detected at the earliest possible moment, at a time when complete removal of the malignant tissue is still possible."

*Read before the Association in annual session, Montgomery, April 22, 1942.

INCIDENCE

Carcinoma of the fundus occurs about one sixth as frequently as carcinoma of the cervix, and, as a rule, is regarded as a disease of advancing age, the greatest number of cases occurring after the menopause and between the fifty-fifth and sixtieth years.

ETIOLOGY

The etiology of carcinoma of the fundus is still not known. Endocrines evidently do play a part in cancer development of the fundus for it usually appears during menopause when the endocrines are erratic. Then too, chronic irritation undoubtedly plays some part in its development.

SYMPTOMS

The symptoms of carcinoma of the fundus usually begin after the menopause and the most important and most frequent is uterine bleeding. It is, as a rule, present in about 90 to 95% of cases. Healey reported postmenopausal or intermenstrual bleeding in 97% of a series of one hundred and ninety-seven cases of carcinoma of the fundus. Uterine bleeding is usually slight and intermittent at first, tending to become more constant and profuse as time goes on. Extramenstrual bleeding during the menopause is too frequently attributed by both physician and patient to the menopause. One need only refer to the large number of patients who comprise the inoperable group when first seen to confirm this statement. Postmenstrual bleeding is regarded as a sign of carcinoma of the fundus, and a diagnostic curettage and pathologic examination should be performed before carcinoma is ruled out. The most significant type of bleeding is that which necessitates continuous protection from soiling and seems to be watery and of a foul odor. Anemia is not a sign of carcinoma but is a sign of long continued loss of blood.

Pain is not a constant symptom, is rare early in the disease, and is more or less cramp-like at the onset. Later, the pains are more severe as the disease progresses and are an ill omen. Pain for the most part is localized in the pelvis and lower abdomen and was present in 27% of Healey's cases, and, according to him, is a symptom of some prognostic significance. He points out that fifty-three patients complaining of pain when their history was taken and who later died of carcinoma had no palpable evidence

of extension beyond the uterus at initial examination. This suggests that pain, in some cases at least, indicates extension of carcinoma beyond the uterus before such extension can be verified by clinical examination. Brindley also states that in his studies, when a patient complained of rather persistent, actual pain, metastases or extension of the carcinoma frequently had occurred, and that from his observation a definitely smaller percentage of patients are cured who complain of pain.

There is usually a watery and foul smelling discharge which precedes the vaginal bleeding but as a rule it is the bleeding which causes most patients to seek medical advice. When this symptom is present, following the menopause, cancer should be ruled out before any other disease is considered.

DIAGNOSIS

Of all internal malignant lesions, carcinoma of the uterine fundus has probably the most favorable prognosis, yet when we consider the high death rate it is evident that we are not making positive diagnoses early enough. The more accessible the affected organ the easier the diagnosis should be to make. The uterus is such an organ. It can be inspected, palpated and explored. On pelvic examination of a patient with early carcinoma of the fundus, no abnormalities may be revealed or the uterus may be enlarged or soft. The uterus enlarges and becomes softer as the disease progresses. Usually inspection is of little value in aiding at arriving at a diagnosis. The passage of a uterine sound may result in the passage of bright red blood (Clark's sign). Blood seldom accompanies this procedure in the absence of carcinoma. Curettage should be done in all cases suggestive of carcinoma and is by far the most reliable and only positive way in which a diagnosis may be made. After curettage the scrapings should be studied by a competent pathologist before a positive diagnosis is made. While an experienced gynecologist can usually diagnose carcinoma from the history, by the enlargement and softness of the fundus and by the character of the curettings, it should be confirmed by microscopic examination.

PATHOLOGY

The uterus may or may not be enlarged. Carcinoma of the fundus is usually adenocarcinoma and is a circumscribed growth arising from the surface of the mucosa. It is of slow growth ordinarily because it is encased in the thick muscle-walled cavity. There are no racemose glands extending from the endometrium into the myometrium as are found in the cervix. The lymph supply to the fundus is sparing in nature, and the lymphatic drainage is late, for it is unlikely to occur until after the muscle wall has been deeply penetrated by the malignant process. Usually the spread of the disease into and through the muscle wall is slow, requiring many months and, in some instances, years. Later the growth may cause marked enlargement of the uterus, even to the size of a three or four months' pregnancy. It may invade and largely replace the myometrium so that only a shell of myometrium and serosa remain, but the tumor is slow to penetrate the peritoneum. It is essential to grade malignancies microscopically, and determine as near as possible clinically, what stage the disease is in, that is: when the lesion is confined to the endometrium, it is regarded as being stage one; when the myometrium is invaded in addition to the endometrium, it is regarded as stage two; when the growth extends through the uterine wall and invades the peritoneal covering it is regarded as stage three; and when other pelvic structures and lymph nodes are involved it is in stage four. If desired, the growths can be grouped as early, borderline and inoperable.

TREATMENT

As stated previously, of all internal malignant lesions, carcinoma of the fundus has probably the most favorable prognosis. There are varied opinions concerning the best method of treatment. Masson and Gregg feel that the standard treatment of carcinoma of the body of the uterus is a total hysterectomy with bilateral salpingo-oophorectomy. Kilgore stated that, in 1936, the California Cancer Commission recommended an hysterectomy with preoperative irradiation in cancer limited to the uterus, and irradiation therapy in cancer extending beyond the walls of the uterus. Healey, of Memorial Hospital in New York, shares the same views as Kilgore, and I believe theirs is the most generally accepted treatment.

In treating carcinoma of the fundus, it should be remembered that the majority of the patients are not good surgical risks. For

that reason all cases should be individualized and consequently there can be no standard treatment. When the disease is confined to the uterus, we have given preoperative irradiation of about 3,000 mgm. hours of radium, followed in six to eight weeks with an hysterectomy. Recently two patients in whom this procedure was followed showed no evidence of malignancy when the extirpated uteri were sectioned, proving that these patients probably would live just as long without an hysterectomy as they would if they had not been subjected to surgery.

In the cases where the disease has spread beyond the walls of the uterus and where the patient's condition is unfavorable for surgery, radium or x-ray therapy is the only method of treatment, and I must say offers much encouragement. The majority of the carcinomata of the fundus of the uterus have a malignancy of low degree of cell activity and are, as a rule, only slightly radiosensitive (about 12%). In the opinion of Stewart there are many malignancies which, according to grade, are not radiosensitive but are radiocurable. The effectiveness of radiation therapy other than radiosensitivity depends on getting large enough doses of radium or x-ray concentrated to the lesion. The growth of the endometrium of the uterus is easily accessible and practical for concentrating the radiation. Therefore, it is quite possible that carcinomata of the fundus, though relatively radioresistant, may nevertheless be radiocurable.

CONCLUSIONS

1. Carcinoma of the fundus occurs usually in the postmenstrual period—average age 55 to 60.

2. Uterine bleeding is the most constant symptom. Its presence after the menopause should at once suggest the presence of carcinoma.

3. There is only one accurate diagnostic procedure, curettage and microscopic study of the curettings.

4. Treatment should be individualized. The most generally accepted treatment is preoperative irradiation, followed by complete hysterectomy and bilateral salpingo-oophorectomy in cases where the disease is confined to the uterus; irradiation therapy in cases where disease has spread beyond the uterus, or the patient is unable to undergo major surgery.

5. Radiation methods are applicable to all patients, the mortality rate is low and the percentage of cures in favorable cases is superior to that obtained by surgery.

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SPECIAL ARTICLE

STATUS OF PROVISION AND SUPPLY OF PHYSICIANS IN ARMY AND NAVY

Many thousands of physicians either have been or are in the process of being commissioned in the Army and Navy, Frank H. Lahey, M. D., Boston, chairman of the directing board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, reports in the August 22 issue of The Journal of the American Medical Association. Dr. Lahey's report on the "Present Status of Provision and Supply of Physicians" is as follows:

Many thousands of medical officers have taken their oaths of office or are now in the process of being commissioned in the Army and Navy. Additional thousands of physicians under 37 years of age have been cleared by the professional and state committees for service in the Army and Navy. In some states, quotas developed by the Procurement and Assignment Service have been filled. However, with the rapid expansion of the armed forces planned during the next six months and with the growth of the military medical services, many additional thousands of medical officers will be required.

Some reduction in the number of medical officers per thousand troops is anticipated because the Army has changed its tables of organization, so that officers in the Medical Administrative

Corps will be assigned to administrative positions formerly held by medically trained men.

By June 1 a hundred and thirty thousand enrolment forms and questionnaires had been returned by physicians. Although many thousands indicated that a commission in the armed forces was their first choice, relatively few applications for commissions in the medical corps of the several services had been received. This seems to have been due to a misunderstanding; namely, that enrolment with the Procurement and Assignment Service was equivalent to applying for a commission. Furthermore, lack of personnel and equipment delayed entering the data of the questionnaires on punch cards. All the information has now been coded on the punch cards. Obviously, every physician should enroll with the Procurement and Assignment Service. If the physician is enrolled, he will be benefited by receiving proper consideration from his Selective Service board, and the state chairman of the Procurement and Assignment Service will be aided in arriving at a decision as to occupational deferment and in rating a physician or dentist as available or essential.

All physicians who failed to enroll and file questionnaires are now being listed. This will be done with the aid of the National Roster and of the American Medical Association. If you have not yet filled out an enrolment form and questionnaire, you should, for your own benefit if not for proper service to your nation, *fill out the enrolment form and questionnaire at once.* If you do not have a blank form, request one immediately from the National Roster of Scientific and Specialized Personnel, 1006 U Street N.W., Washington, D. C.

On April 18 the President issued an executive order transferring the functions of the Procurement and Assignment Service to the War Manpower Commission in the Office for Emergency Management. Previous to this the Navy established offices of Naval Officer Procurement in all naval districts throughout the United States for the most rapid processing of applications and the procurement of officers.

During the latter half of May, terms of army officers constituting medical officer recruiting boards were sent by the War Department to various states to stimulate and facilitate the recruiting of medical and dental officers for the Army. These boards are authorized to issue commissions to qualified applicants immediately. The weekly number of appointments rose sharply. Since the members of the recruiting boards are getting in contact only with those physicians and dentists who have been "cleared" by the Procurement and Assignment Service, there has been a greatly increased volume of work in this agency. To handle this additional work, the office personnel of the Procurement and Assignment Service was increased, and on July 2 its offices were moved to 1006 U Street N.W., along with those of other divisions of the War Manpower Commission, including the National Roster of Scientific and Specialized Personnel.

With these increased facilities, proper functioning became possible. By the middle of July letters had been forwarded to fifteen hundred physicians under 37 years of age who had signified their preference to serve with the Army. Each letter contained a postcard addressed to the Surgeon General of the Army and one addressed to the War Manpower Commission, and the physician was asked to sign and forward them, thus indicating his desire to be commissioned. The sending of these letters will be continued. To expedite matters, the recruiting unit in each state is informed by the Office of the Surgeon General of the applicant's willingness to apply for a commission.

The Navy Department is furnished names by the Procurement and Assignment Service of those physicians who signify a preference for the Navy. The Bureau of Medicine and Surgery sends such physicians invitations to enroll in the Medical Corps of the United States Naval Reserve and indicates to them how they may apply according to Navy regulations. Physicians should realize that they still have freedom of choice as to the armed service to which they prefer to apply for commission. It is to be borne in mind that the Selective Service boards alone have the legal authority to draft physicians. These boards have been instructed to give every consideration to the physicians whose numbers have been called.

Thus the Procurement and Assignment Service is now functioning according to the plans originally established by the directing board and by the various committees. Its purpose, however, includes not only the listing and procurement of medical, dental and veterinary personnel for the armed forces but also the procurement and equitable allocation of medical and allied personnel for civilian service in medical schools, hospitals, industry, nonmilitary governmental agencies and civilian communities.

One of the first steps taken by the directing board of the Procurement and Assignment Service was the establishment of a study of the distribution of physicians in each of the states according to age, sex and type of practice, in relation to population. These data were utilized in meeting the needs of the armed forces, due allowance being made for the differences between states. Furthermore, the medical needs of districts in each state were roughly estimated, on the basis of one physician for each 1,500 of population. These figures are employed in determining the number of physicians to be judged "essential" in any given area. The status of individual physicians, not only in private practice, but also in hospitals, medical schools, industry and various governmental institutions, was determined only after the local authorities had been consulted, and the final decision was always left to the state committees or, in the case of dispute, to the corps area committees.

Unfortunate incidents have arisen through the commissioning of men previously declared "available" who have suddenly become "essential" because of the death, disability or enlistment of some other physician.

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THE FOUR-YEAR MEDICAL SCHOOL

The time for unified action looking to the establishment of a four-year medical school in Alabama is at hand. On more than one occasion the State Medical Association has unqualifiedly recorded itself as being in favor of such an institution, and at its 1939 meeting in Montgomery adopted a resolution of the State Board of Censors recommending that the Legislative Committee of the Alumni Association of the Medical Department of the University of Alabama be designated a special committee for the purpose of promoting the interests of the school. At the June 1942 meeting of the State Board of Censors, the Board authorized the President of the Association to increase the personnel of the committee in order that the several parts of the state might be more completely served by it in promoting the organization of the school. Such appointments have been made by the President and the committee is now composed of Dr. W. D. Partlow, Chairman, Dr. E. V. Caldwell, Dr. J. P. Collier, Dr. S. A. Gordon, Dr. John H. Blue, Dr. B. F. Austin, Dr. S. L. Ledbetter, Jr., Dr. Emmett B. Frazer, Dr. P. P. Salter and Dr. A. M. Walker.

This committee has received encouraging comments concerning the school from various sources and many parts of the state, and in its eagerness to bring the endeavor to a successful conclusion has prepared a bill for legislative consideration which will "create and establish a four-year medical school in the State of Alabama to be known as 'the Medical College of Alabama,' a School of Medicine of the University of Alabama." A Board of Regents will be provided composed of the Governor as ex officio member and President of the Board, the State Superintendent of Education as an ex officio member, and fourteen members, to include the Board of Trustees of the University of Alabama, as now constituted, and four additional members to be appointed by the Governor, who shall be members in good standing of the State Medical Association and reside in different sections of the state. Recently the committee held a meeting with Governor-Designate Chauncey Sparks at Montgomery and received assurances of his interest in the enactment of the proposed legislation.

The people of the state are concerned about the few physicians, in proportion to population, available to supply medical services in private practice, public health and institutions. The objective of the Association's committee is to convince the members of the Legislature that a four-year medical school, supported largely by the state, will help materially in meeting medical needs by supplying well trained Alabama physicians. Attention has been called by the committee to the fact that in the past twenty years the number of physicians in the United States has increased more than 24,000 and that the average ratio is one physician to every 853 of the population; while in Alabama during the same period the number of physicians has decreased by 404 to make the present ratio in this state one physician to 1,510 population. Furthermore, Alabama had a sufficient number of physicians when the four-year medical school was discontinued in 1919, and the number has gradually declined since that time. When students leave the state for their entire medical course or the last two years in medical school many do not return to Alabama. To encourage additional Alabamians to study medicine the proposed bill authorizes the establishment of scholarships in the amount of $150 per year provided the beneficiaries agree in writing to practice their profession in the state for five years.

It is believed that a four-year medical school in Alabama will furnish facilities for Alabama youths who are ambitious, able and qualified to study medicine to do so at less expense and less inconvenience than is now necessary. After the proposed four-year medical school bill is enacted into law and the school is approved by the American Medical Association's Council on Medical Education and Hospitals, it is confidently anticipated that the ratio of capable physicians to population will improve. With this aim in view every physician in Alabama is urged to acquaint himself thoroughly with the need for a four-year medical school and the provisions made in the Association-sponsored bill to meet that need.

DRUG ERUPTIONS

"Eruptions caused by all types of medicaments run the morphologic gamut of dermatology and may vary from the palmar and plantar keratosis or pigmentation or exfoliative dermatitis from ingestion of arsenic, to serum sickness from various antitoxins or from a few pustules of an iododerma to the fixed drug eruption of phenolphthalein. . ."

"Two types of dermatitis generally occur from drugs. These are dermatitis medicamentosa and contact dermatitis. Dermatitis medicamentosa results from internal absorption. It is primarily allergic in nature but is little understood. Sensitization is in the cutis and seems to be caused by a conjugated protein. Contact dermatitis is the result of sensitization in the skin."

The above are some of the opening lines of the article by Kierland and Brunsting[1] dealing with the ever-present subject of drug eruptions. The Rochester clinicians hold that drug eruptions are relatively rare and that the mechanism of sensitization is little understood. "The period of incubation is variable. It may vary from hours to years depending on the nature and dose of the drug, frequency of exposure and, above all, on the degree of susceptibility of the individual. Once acquired, the state of sensitivity is usually permanent but the clinical manifestations may vary in character and intensity."

The authors also tell us that "drug eruptions are distinct from the pharmacologic or toxicologic effects of drugs. Cumulative effects of drugs are not observed except probably in the case of iododerma, bromoderma and argyria. Graded doses of drugs do not cause reactions of equivalent degrees."

And we read that "reactions are usually unexpected, and the onset is abrupt. Constitutional symptoms, as a rule, are mild; however, in severe reactions fever, malaise, toxemia, bleeding, and even death may occur."

"The character of the eruption is sometimes distinctive for certain drugs (bromides, iodides and phenolphthalein); more often it is not. These eruptions must be distinguished from the contagious exanthemas and from other conditions as pityriasis rosea, secondary syphilis, urticaria, eczema, erythema multiforme, and so forth. A single drug may produce many types of eruptions; on the other hand, a single type of eruption may be produced by many different drugs. The eruption may present or represent practically all the cutaneous lesions that are described, from superficial transient erythema to gangrene. It may be generalized or limited to certain regions, but is usually symmetrical. Special regions such as the face, neck, forearms and the legs are more commonly selected. The mucous membranes of anus, genitalia, and mouth are frequently involved, especially in those eruptions that simulate erythema multiforme."

And, in the concluding paragraph we are informed that "the diagnosis of drug eruptions is often made by exclusion of other dermatologic conditions. The proper history is of great value, but is by no means an infallible guide, for 'drugs' to many individuals mean narcotics, and sensitizing drugs masquerade in many different forms; for example, arsenic and iodides are found in tonics; bromides in nerve medicines; quinine in cold remedies, and phenolphthalein in liver pills, cathartics and medicated gums. Occasionally, to obtain definite proof it may be necessary to provoke another attack by giving the patient small amounts of the suspected material."

Kierland and Brunsting have indeed done well to discuss this subject because, while drug eruptions continue to plague both patient and physician, they are not dealt with sufficiently in the current medical literature

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and they do not receive the attention that they merit from most practitioners. The Rochester investigators have been very practical and down-to-earth in their discussion and, while their article was very brief indeed, they have nevertheless managed to cover the ground thoroughly. And most of those now in practice would do well to heed their warnings and to follow the sound advice they have given.

Committee Contributions

Maternal and Infant Welfare

TOXEMIAS

In Alabama, during the years 1934-1939 inclusive, 768 women died of toxemia of pregnancy. These deaths constituted over 37.9% of the total maternal deaths during this period. There has been a 28% decrease in the maternal mortality rate during the past three years. This decrease was due chiefly to the decrease in the toxemia deaths among white women.

The 1940 figures showed an increase in the number of toxemia deaths and an increase in the toxemia death rates of 14% in the white and 32% in the colored. The total maternal mortality rate for the white mothers decreased for both the years 1939 and 1940 while the rate for the colored mothers decreased in 1939 but the 1940 rate was considerably higher than that for 1938.

There cannot be a marked decrease in maternal mortality rates nor in the toxemia mortality rates until a larger number of the mothers of Alabama receive adequate medical supervision throughout their entire pregnancy.

Toxemias are in large measure preventable, but it is essential that the danger signals be recognized early and adequate preventive measures instituted before it is too late. A sudden gain in weight of more than a pound a week as an average is often one of the earliest signs of toxemia. Perhaps we should consider it to be the yellow caution-light of toxemia. Certainly we should not wait for the red stop light of increased blood pressure and albuminuria before impressing the patient with the necessity of starting her treatment. While it is readily recognized that in the lower income group it is often difficult for the mothers to have the required rest and diet so essentially a part of the preventive treatment of early toxemia, we must continue to help them obtain the necessary preventive treatment.

Patients who show no sudden weekly increase in weight nor edema, whose blood pressure does not gradually rise or who have no suggestive symptoms may be passed along through the green light of safety until the next visit.

The giving of greater and more vigilant consideration to the yellow caution-signs of toxemia during the coming months will most certainly help to conserve the already limited medical services which are going to be needed for the acute medical demands. Your Committee urges that you keep these factors uppermost during the trying months which are ahead of us.

Prevention of Cancer

YOUTH LOOKS AT CANCER

The present-day youths have learned to face facts and problems squarely. The older generation is passing on to them many unsolved problems, some of them they will solve, others they in turn will have to pass on to their sons and daughters for solution.

One of the major medical problems to be solved is cancer. In order to help solve this problem our youth must be informed of our present knowledge and the many gaps that must be completed before the king of death has been dethroned. Thus it falls upon the medical profession with its numerous helpers to see that our young people are given all the available information about cancer. Every physician should consider himself a missionary and carry the message to the young folks of his community through talks, newspaper articles, and books which can be placed in school, college and city libraries. One book has been written for the high school age by the Westchester Cancer Committee and is available for distribution through the American Society for the Control of Cancer.

Although cancer is not of primary importance in persons under twenty years of age, the numbers in this lower age group are continuously increasing. In 1940 there were twenty-five deaths from cancer while over

four times as many died of cancer between twenty and forty years. Cancer held third place in cause of death in women in the age group thirty to thirty-four but was first in the age group thirty-five to forty-four.

The education of our youth for prevention and early recognition of cancer is essential for all too soon the youths of today enter the dangerous cancer years of tomorrow. Shall we not as physicians accept this challenge to see that all of our patients and their children are taught the danger signals of cancer?

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

THE INTENSIVE TREATMENT OF EARLY SYPHILIS

The introduction a few years ago of the intensive continuous drip method of treating early syphilis promised to revolutionize the management of this stage of the disease. The increased risk to the patient and the necessity of hospitalization, however, have prevented the wholesale adoption of this method. It has led to a study of other methods of intensive therapy and there are today many schemes for shortening the course of treatment without sacrificing therapeutic efficiency.

Eagle and Hogan report on the toxicity and therapeutic activity of different treatment schedules in an article published in Science of April 3, 1942 and abstracted in the June issue of Venereal Disease Information. Working on rabbits and using mapharsen they reached certain conclusions, some of which might be quoted: (1) Mapharsen administered by intravenous drip has been consistently less effective than when administered by repeated injections over the same period of time. (2) Of primary importance is the fact that of every treatment schedule tried the total amount of arsenical which could be administered without killing the animal increased directly with the total duration of treatment. (3) The authors say that the implications with respect to the treatment of human syphilis are clear. On any schedule of injections, any desired margin of safety can apparently be achieved by suitable prolongation of the treatment period. On the basis of the animal results to date, the requirements would at least be approximated by (a) injections of 20 mg. mapharsen (0.3 mg. per kg.) repeated twice daily for 4 to 8 weeks; (b) daily injections of 30 mg. mapharsen (0.5 mg. per kg.) for 5 to 10 weeks; or (c) injections of 60 mg. mapharsen (1 mg. per kg.) repeated 3 times weekly for 5 to 10 weeks. The only choice between these and other schedules which could be worked out would be that of convenience to the patient and to the physician.

Numerous clinics are today testing out various schedules and probably before long a standard outline will be agreed upon.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

HEALTH SERVICES FOR MOTHERS AND CHILDREN IN WARTIME

During the past year Alabama has rapidly become a state with many strategic areas, areas in which, on account of war industries, camps, and army training centers, normal living conditions have been upset.

Population gains, overcrowding, inadequate housing, lack of proper sanitation, and shortage of physicians have adversely affected the health conditions. Especially liable to suffer are the health services to mothers and children.

From the Eighth Pan American Child Congress came timely and important recommendations that are applicable to Alabama.

A few of the measures recommended to maintain and extend, in time of war, health services for mothers and children are:

1. Intensification of preventive health work, especially immunization against communicable diseases, the treatment of syphilis during pregnancy, sanitation of unhealthy areas, and the control of drinking water and food stuffs, especially milk.

2. Health education for mothers.

3. Increase of medical supervision and education for expectant mothers and for children from birth to adolescence by means of

prenatal clinics, postnatal clinics, child health conferences, and school health services.

(To meet this need in Alabama maternity clinics are conducted in 110 centers in 52 counties, and there are 71 child health conferences in 25 counties.)

4. Increase in provision for medical and obstetric care during child birth.

5. Improvement of the diet of women during pregnancy and lactation.

6. Special attention to nutrition in each community to determine the most adequate type of diet from the standpoint of the nutritive value of available foods and with regard to the cost and the economic condition. There should be an intensification of the program for the consumption of milk and for school lunches.

7. The creation of behavior guidance clinics and the development of educational measures to counteract the psychologic effect of war on children. This would require the joint efforts of physicians, psychiatrists, teachers, social workers and parents. This service would be valuable since "British experiences show us that among children the worst emotional upsets are likely to appear in the pre-school and in the teen ages . . . and the recent rise in delinquency in Britain among children is in the younger adolescent groups."

8. The preparation of volunteer personnel to assist the technical personnel in the medical care of mothers and children.

With all our war efforts, the welfare of mothers and infants is of paramount importance and health services for them should be maintained and expanded.

The children neglected in wartime will again become the handicapped future citizens.

War Needs—Examination of the efforts and achievements made thus far to meet public health needs of the nation at war leaves the impression that there is ample justification for encouragement. Rapid changes involving many phases of complex problems cannot be made without some apparent confusion. But acceleration in the coordination of the social and economic factors with the more obvious medical and engineering aspects of public health far more than compensates for the extra effort that is required in making the necessary shifts.—*Sullivan, Am. J. Pub. Health, August* 1942.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

THE NECESSITY FOR FOOD ESTABLISHMENT REGULATIONS AND THEIR ENFORCEMENT

By
L. W. Grogan
Senior Sanitarian

The original incentive for the inauguration of food control was the recognition that many cases of illness and death were being caused by the consumption of impure foods. Regulations that have been drawn up and put into effect by the government, states, counties and cities are designed to protect food and food products from being infected with pathogenic organisms; from adulteration with preservatives or harmful chemicals; and from containing dirty, infected or decomposed materials.

Bacteria which may be disease producing gain access to food in several ways. They may be present in the raw product at the time of production, as, for example, pathogenic bacteria in milk, oysters and meat. They may find access to food during its production, transportation, and handling from air currents; or by contact with infected surfaces, implements or containers; improper storage; during the manufacturing operation by direct contamination from an infected workman; or by infestation of the establishment with flies, rodents or vermin.

The three groups of organisms that are responsible for most food poisoning infections are the Salmonella group (Salmonella aertrycke causative), Hemolytic staphylococcus (type Staphylococcus aureus and albus causative), and Clostridium botulinum infection.

In investigating food-borne outbreaks it is of prime importance to make a careful investigation as to the probable source of infection; to promptly impound all foods under suspicion; and to collect such samples for laboratory analyses and research work as circumstances indicate to be desirable. Suspected foods which are impounded should not be released for sale until laboratory or epidemiologic investigations show them to be free of suspicion. An immediate and thorough inspection should be made of the establishment and premises to determine the cleanliness of the equipment, uten-

sils and methods used in its operations and maintenance. The water supply, plumbing and drainage facilities should be investigated thoroughly. Refrigeration plant and equipment, especially if ice is manufactured below the ground level, should be checked for possible exposure to contamination by overhead drains or back flow from sewers. The garbage and refuse disposal method should be carefully checked. Structural defects which permit infestation of the building or structure with rodents and vermin should be checked since rats and insects are frequent vectors of disease. The effectiveness of the bactericidal treatment of the dishes and similar equipment should be determined. Storage rooms for supplies should be investigated for cleanliness and possible overhead contamination or flooding, and foods should not be stored directly on the floor. Tables and racks where food is prepared or stored or served and where dishes and utensils are stored should be impervious or demountable for easy cleaning and should not be located directly under sewer lines, drains or sprinkler heads. Inspection as to cleanliness of all equipment, such as steam tables and warming trucks, should be investigated. Methods for protection against contamination from flies and dust of all breads, pies, cakes, other pastries and cleaned utensils should be checked. A check should be made of all rooms where the processing of food takes place for poisons that might be accidentally used for seasoning or ingredients of foods. All poisons should be plainly marked "poison" and should not be stored in the kitchen, store room or cabinets where there are foods or cleaned utensils. Observation should be made of employees as to the cleanliness of their hands, finger nails, outer garments, and for evidence of sores or skin abrasions or eruptions as this is an important factor in the staphylococcus food infections. Milk and dairy products should be investigated to determine whether they are served in the original containers or purchased in containers of a size so that when once opened the contents will be consumed quickly. Storage of any food products in open containers should be discouraged. Ice should be handled and stored under hygienic conditions where it is used in mixed drinks.

Statistics regarding the causative agent in outbreaks of food poisoning are usually incomplete. Food samples submitted for investigation are often unsatisfactory, having been stored improperly or too long before culturing. There is no doubt that only a small percentage of cases occurring in family groups are reported, whereas, when a large group or gathering of people are afflicted, the attention of the public is called to the episode.

The incubation period in bacterial food poisoning varies widely but is usually from 3 to 48 hours. The staphylococcus food poisonings have a short incubation period of 2 to 4 hours. Most cases show symptoms in 3 hours. Recovery is usually rapid. In Salmonella food poisoning, the symptoms are not caused by preformed toxins as in staphylococcus food poisonings. They are due to infection by living organisms which are animal pathogens. In these cases the incubation period is longer, usually 12 hours or more. Botulinus poisoning is the most severe as it is one of the most potent toxins known. In most cases it is found to be the result of improper handling and sterilization of vegetable and meat products. According to Shrader, typical symptoms appear in 12 to 48 hours.

It is evident that the role and responsibilities of the public health sanitarian as a team worker in the prevention of such food infection, and in promoting food hygiene, especially from the standpoint of environmental sanitation, is an important one. Therefore, standards of plant construction, performance, methods, and quality of products were formulated as guides in supervision, and to prevent confusion and misunderstanding to the operators of food-handling establishments. It is therefore imperative that the channels of the processing of foods be systematically supervised and regulated. Infractions of the regulations should be corrected, preferably by the helpful cooperation of the supervising officials and operators. However, when cooperation of the operator can not be secured, fearless prosecution becomes necessary.

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	June	July	Estiimated Expectancy July
Typhoid	9	28	72
Typhus	23	35	46
Malaria	412	595	952
Smallpox	1	0	0
Measles	168	53	138
Scarlet fever	30	29	41
Whooping cough	206	152	144
Diphtheria	3	19	41
Influenza	88	25	27
Mumps	65	18	31
Poliomyelitis	7	11	13
Encephalitis	1	1	3
Chickenpox	47	21	13
Tetanus	6	1	5
Tuberculosis	219	211	291
Pellagra	18	9	44
Meningitis	7	7	6
Pneumonia	119	107	79
Trachoma	0	0	0
Tularemia	0	0	1
Undulant fever	14	5	6
Dengue	0	0	0
Amebic dysentery	0	1	0
Cancer	160	146	0
Rabies—Human cases	0	0	0
Positive animal heads	20	22	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Book Abstracts and Reviews

Ambassadors in White, The Story of American Tropical Medicine. By Charles Morrow Wilson. Cloth. Price, $3.50. Pp. 372. New York: Henry Holt and Company, 1942.

This is the story of the white man's warfare against the diseases and insects which have long plagued his efforts to live and prosper in the areas bordering the equator. Even though the medical conquest of those regions is far from complete, the record of what has been accomplished is a thrilling one. Like the other kind of warfare which dominates the front page, the radio broadcasts and the public consciousness, this warfare of life-saving has produced many heroes.

Mr. Wilson's book therefore is in part biography—brief sketches of the lives and accomplishments of the Douglas MacArthurs and General DeGaulles of this warfare of medical science. But it is more than that. It is a revelation of the part played by tropical diseases in the shaping of the world as we know it and, more important, in the making of the world of the future. Mr. Wilson, who possesses the happy knack of turning normally dull facts and figures into terms of human life and history, has here an excellent field upon which to exercise this rare gift, and the result is a book that adds not only to our knowledge but also to our pleasure.

It is inevitable that such a book would devote considerable attention to that number one Alabamian, William C. Gorgas, probably the greatest sanitarian the world has ever known. The story of his sanitary clean-up of Havana and later of the Canal Zone is told interestingly and with sincere admiration, albeit briefly, since the work of others is also entitled to attention in this story of an accomplishment that covers a large portion of the world's surface. Among these others are Major Walter Reed, whose research in yellow fever transmission in Cuba identified the Stegomyia mosquito as the all-important link in the chain of infection and made possible the sanitary miracles of the great Alabamian; William Deeks, who did so much to increase man's knowledge of malaria and the nutritional deficiency diseases; and Hideyo Noguchi, the Japanese genius who, unlike his perverted fellow countrymen of our day, devoted his brilliant mind and frail body to the task of human progress, unraveling the secrets of syphilis, trachoma, yellow fever and other diseases.

In spite of the great work of these men and their comrades in life-saving, Mr. Wilson believes the task of conquering tropical diseases has just begun. The fact that it has not made more progress, he tells us rather glumly, may seriously interfere with the United Nations' war effort and even make victory less certain. For, he reminds us, the health of the American soldier will have much to do with the outcome of the war, and the health of the American soldier—to say nothing of the health of the British soldier, the Fighting French soldier and the soldiers of the other nations fighting under the common banner—may be seriously impaired by the tropical diseases that have been curbed but not yet conquered. He tells us too about the quinine that it is now so scarce but which would be available in ample quantities if the cinchona trees of South America were not virtually set off from the rest of the world by a Chinese Wall of tropical disease. Tire rationing would be entirely unnecessary, we learn at a time when the rubber shortage is rapidly becoming one of the major hardships of the war, if the product of the rubber trees which are now growing in South America, and the unlimited number that might be growing, could be gathered and transported to the coast without such a prohibitive cost in human life.

Ambassadors in White is a challenge to those facing the problems of the crucial present and the even more crucial future. Its appeal is for more Walter Reeds and William Gorgases to carry on and complete the tasks which these great men of the past have started. If the still unsolved problems of tropical disease are not solved, it warns solemnly, society may pay grievously for its failure to take this danger seriously.

J. M. G.

Standard Nomenclature of Disease and Standard Nomenclature of Operations. Edited by Edwin P. Jordan, M. D., Assistant Fditor of the Journal of the American Medical Association, Chicago. Cloth. Price, $4.00. Pp. 1,022. Chicago: American Medical Association, 1942.

This book, just published by the American Medical Association and a complete revision of the volume originally printed in 1932, was developed by a committee appointed by the Board of Trustees of the Association to carry out the work. In the undertaking the committee has had the cooperation of special committees in each of the fields concerned.

The volume will be found useful by editors of medical publications. It is hardly necessary to direct attention to the desirability of adoption of standardized nomenclature by hospitals and all others concerned with scientific medicine.

D. L. C.

The Blood Bank and the Technique and Therapeutics of Transfusions. By Robert A. Kilduffe, A. B., A. M., M. D., F. A. S. C. P., Director, Laboratories, Atlantic City Hospital; City Bacteriologist, Atlantic City; Serologist, Municipal Hospital for Contagious Diseases, Atlantic City; Pathologist, Atlantic County Hospital for Tuberculous Diseases; Serologist, Betty Bacharach Home for Crippled Children; Serologist, Jewish Seaside Home, Atlantic City; Formerly, Major, Medical Corps, United States Army; and Michael DeBakey, B. S., M. D., M. S., F. A. C. S., Assistant Professor of Surgery, School of Medicine, Tulane University of Louisiana; Visiting Surgeon, Charity Hospital, Touro Infirmary, Mercy Hospital, New Orleans; Associate in Surgery, The Ochsner Clinic, New Orleans. Cloth. Price, $7.50. Pp. 558, with 214 illustrations and one color plate. St. Louis: The C. V. Mosby Company, 1942.

This volume presents one of the most timely subjects in the literature today. In a world where bloodshed is rampant, the most recent knowledge of blood transfusions and blood banks is essential.

Prior to World War I, transfusions were the exception rather than the rule. The last war's experiences showed quite forcibly that if the injured soldiers could be given transfusions at the Collecting Stations their chances for survival were much better. This was especially true in cases of shock. But with the tedious and time-consuming procedures necessary for typing and cross-matching in use at the time, the early administration of blood transfusions was not possible. The result was an increased mortality rate. Since the last war, however, the knowledge of blood transfusions and their administration has increased by leaps and bounds. And much of the knowledge has been tested in the actual field of combat, viz., the Spanish Civil War, with sufficient facts to corroborate much previous theoretical knowledge. As a result, methods are today being used which were not dreamed of as much as 15 years ago.

The volume comprises 16 chapters, the first 7 of which deal with the historical background of transfusions, as well as the rationale, indications and contraindications for their administration. A chapter on the military aspects of transfusions, which is most timely, is included. The 4th, 5th, 6th and 7th chapters deal with the special types of transfusions, blood typing techniques, anomalous blood typing reactions, and a discussion of the universal donor and universal recipient. Following each chapter, there is an extensive bibliography to serve as references. Chapters 8 through 11 deal with the blood bank, its historical aspects, how to preserve the blood, what kind of preservatives to use, the changes (physical and chemical) which occur in stored blood, and finally the operation of a blood bank.

Chapters 12 through 14 deal with blood plasma transfusions and the preparation and preservation of citrated plasma, as well as the preparation of concentrated and dried plasma which is one of the most recent advances in the study of blood transfusions. Finally, the last two chapters, 15 and 16, are devoted to methods and techniques of transfusions, as well as complications of blood transfusions.

Each chapter is discussed in detail and the bibliography on the subject is utilized widely. The authors actually present a course in blood transfusions in a most interesting and learned manner. These two authors are widely known, having contributed much to the literature in the fields of bacteriology, serology and surgery.

The volume is excellently written, the print is large and easily read. The index is excellent, facilitating the finding of topics with the greatest of ease.

The volume is a must in every physician's library for daily reference, especially now when the common enemy has resorted to the indiscriminate bombing of civilian populations with resulting hemorrhage, burns and shock. The knowledge whether to give whole blood or blood plasma for shock may be the means of saving life. This book tells what to give and, what is more important, why to give it, for the mechanisms underlying the production of shock are discussed in detail. A timely book at a timely moment.

H. C.

The Mind and Its Disorders. By James N. Brawner, M. D., Medical Superintndent, Brawner's Sanitarium, Smyrna, Ga. Cloth. Price, $3.50. Pp. 228. Atlanta, Ga.: Walter W. Brown Publishing Company, 1942.

"A book describing briefly, and in language as simple as the subjects permit, the neuroses, psychoneuroses and psychoses" is a welcome addition to the library of all physicians, particularly those in the field of general practice. Succinctly, Dr. Brawner deals with the etiology, pathology, symptoms, prognosis, diagnosis and treatment of the usual nervous and mental disorders, and concludes his volume with a brief description of related subjects, as, for example, the criminally insane.

The volume is well printed on good paper and attractively bound. It is commended to all who are desirous of refreshing their minds on the subject or who need further light regarding it.

D. L. C.

Treatment of the Patient Past Fifty. By Ernst P. Boas, M. D., Associate Physician, Mount Sinai Hospital, New York City; Chairman, Committee on Chronic Illness, Welfare Council of New York City; Assistant Clinical Professor of Medicine, Columbia University. Cloth. Price, $4.00. Pp. 320, illustrated. Chicago: Year Book Publishers, Inc. 1941.

This book, by a well known author, is indeed an eye-opener as concerns many of the concepts and ideas which many physicians have held and still hold with respect to the aged and their treatment. It is shown that many of the conditions which are glibly termed "aging process" are in truth nothing more than disease processes. The author stresses the need for physicians to differentiate between the aging and disease processes. For example, many consider arteriosclerosis a part of the aging process when in truth it is a disease process. Were this not so then it would

be futile to try and treat this condition. But if it is looked upon as a disease process, then the causes may be searched for with the hope of utilizing a more rational therapeutic endeavor.

The aging process is but one phase in life's cycle. Heredity, the external environment, and the internal environment of the body are factors which determine the aging process. Some of its manifestations are loss of height and weight, looseness, loss of elasticity of skin, dimness of vision, dehydration of intracellular spaces, graying of hair, presbyopia, and atrophy of hair and sweat follicles.

In the aged individual, as long as no great demands are made upon it, the body will function more or less normally but will not respond when under stress. Hence, the physician must realize that there are limitations under which the aged organism may function and must never exceed these limitations.

Other factors which indicate the aging process are the poor response of the aged body to injury, poor resistance to infection, and vitamin as well as nutritional deficiency.

Not only must the physician attempt to treat the patient from the physical standpoint but also from the psychological. Many an elderly patient deteriorates, and dies, rapidly if he feels his life's road has ended for him. As long as the old person feels he still is of some use to the world he will thrive for a long time. This, according to the author, explains why many elderly individuals become absent minded, not from organic reasons but from lack of attention, since there is nothing in their environment which calls for their continued interest and attention. The important point, therefore, brought out in this respect is to keep the aged useful and at work.

After a discussion of the management of the aging and aged person, the author discusses the diseases of the various systems of the body. Though every disease which may affect every organ is not discussed, the discussion of the diseases named deals with those which most commonly affect the elderly person. Following each major topic are suggestions for treatment, medical or surgical.

The book is well written, the author's style is excellent and readable. The print is large, causing no strain upon the eyes. The work is not profusely illustrated, but contains 19 illustrations which clarify the text in point. The index is such that topics are found with the greatest facility. Each major topic in the index has many subtopics which are related to the former and which can be found with the greatest of ease.

The individual physician who will recognize the value of geriatrics and pay heed to its principles will find, when he sums up his efforts, that he has truly done preventive medicine, though on an individual scale. And if, as we are taught, the individual's life is sacred, then we shall have the satisfaction of knowing that we have practiced the teachings of our loved and noble profession by having saved many lives and prevented many an individual from developing the diseases common to old age.

H. C.

The Care of the Aged (Geriatrics). By Malford W. Thewlis, M. D., Attending Specialist, General Medicine, United States Public Health Hospitals, New York City; Attending Physician, South County Hospital, Wakefield, R. I.; Special Consultant, Rhode Island Department of Public Health. Fourth edition, thoroughly revised. Cloth. Price, $7.00. Pp. 589, with 50 illustrations. St. Louis: The C. V. Mosby Company, 1942.

A physician can have no more important responsibility than the care of the aged. As pointed out by the author in his preface, the census of 1940 shows that there are more than 8,956,000 persons in the United States over 65 years of age —an increase of 35 per cent in this age group since 1930, and it is in the interest of this large proportion of the population that Dr. Thewlis has brought out his thoroughly revised fourth edition of his favorably known book. Attention is directed by him to the fact that World War II may cause a greater disproportion between the young and the old than is true at the present time, and that geriatrics will play an important part in the all-out war effort. It is important then that the profession be familiar with the subject, dealt with so admirably by Dr. Thewlis.

D. L. C.

Central Autonomic Regulations in Health and Disease. By Hymen R. Miller, M. D., Associate Attending Physician, Montefiore Hospital, New York; with introduction by John F. Fulton, M. D., M. A., D. Phil. (Oxon.), Sterling Professor of Physiology, Yale University, New Haven, Conn. Cloth. Price, $5.50. Pp. 440, with 64 illustrations. New York: Grune & Stratton, Inc., 1942.

Medical science and practice have been greatly enriched by the constantly growing knowledge about central control of bodily functions.

In this book the mechanics and functions of the central autonomic regulations are detailed in a manner which both the practitioner and the specialist will find interesting and useful. The essential anatomic, physiologic and pharmacologic facts have been systematically organized and correlated with clinical material. Special attention is given to the autonomic innervations.

"The book has been written from the point of view and out of the need of the clinician." (From the preface.) Autonomic areas in the brain influence every system in the body, both in health and in disease. An understanding of the normal and abnormal functioning of the central autonomic controls is, therefore, of prime importance in the diagnosis and therapy of clinical conditions. The emphasis of Dr. Miller's book is not on pathologic morphology, important as that is, but on the influence of the autonomic mechanisms on clinical conditions.

Separate chapters deal with the functions of the autonomic centers in the brain as they bear on cardiovascular, gastrointestinal, genito-urinary, and respiratory conditions and on emotional and sleep-waking disorders. The influence of the central controls on heat regulation, water control and metabolism is also treated in detail.

The well-planned text, enriched by original illustrations designed to show the mechanism of autonomic functions should prove of interest to every internist. For the cardiologist, for example, clinical cases and problems such as hypertension, heart rate and heart rhythm are discussed

against a detailed background of the innervations and functions which comprise the autonomic regulations of the heart, the coronary vessels, the hepatic veins and the closely related pulmonary and splanchnic circulations. Similar treatment is accorded to the practice of medicine in other domains.

The account of the anatomy and functions of the hypothalamus will particularly engage the attention of the neurologist and psychiatrist.

The author has utilized personal clinical observations and material. Numerous illustrations and special drawings clarify the text. A comprehensive bibliography follows each chapter.

Clinics. Published bi-monthly under the editorship of George Morris Piersol, M. D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia; with the collaboration of 16 physicians. Price, $12.00 per year. June 1942 number. Paper. Pp. 264. Philadelphia: J. B. Lippincott Company.

According to the editors and publishers, Clinics is in response to a need for a publication that will report from all fronts. If the June 1942 number (Vol. 1, No. 1) is a harbinger of what is to follow, then readers will look forward eagerly to each succeeding issue. General considerations of the burn problem, the local treatment of burns, plastic repair of burns with free skin grafts, shock, influenza, headache, cardiac efficiency, generalized adenopathy, rupture of the uterus, vitamin B deficiency, and diagnosis in pulmonary disease are among the subjects dealt with in the first number. Future issues will cover nutrition, hemorrhage, endocrinology, and pediatrics, among other things.

The publishers announce that Clinics will come every two months throughout the year in place of the New International Clinics. Readers of the latter will welcome the attractive format of the new publication and will profit from the timely articles it contains.

D. L. C.

Fractures, Dislocations and Sprains. By John Albert Key, B. S., M. D., Clinical Professor of Orthopedic Surgery, Washington University School of Medicine, St. Louis; and H. Earle Conwell, M. D., F. A. C. S., Consulting Orthopedic Surgeon to the Tennessee Coal, Iron & Railroad Company, and the Orthopedic and Traumatic Service of the Employees' Hospital, Birmingham, Alabama. Third edition. Cloth. Price, $12.50. Pp. 1,278, with 1,259 illustrations. St. Louis: The C. V. Mosby Company, 1942.

Fractures, Dislocations and Sprains is a text written primarily for the student, the general practitioner and the surgeon. Its scope is such, however, that it fills a very definite place for the orthopedist as well as the surgeon who maintains a rather extensive fracture service.

This edition takes cognizance of the recent advance in the treatment of fractures of the spine and hip and the use of sulfonamides in the treatment of compound fractures, all of which merit particular attention. Those fractures which necessitate a highly defined form of specialization as fractures of the skull and brain trauma in addition to those of the jaw and face, have been brought up to date by authors noted for their work within this scope of practice. Due recognition has been given to these contributors and others aiding in the publication of this text.

The text is divided into two parts, the first dealing with the principal and general aspects in the treatment of fractures, dislocations and sprains, and the second, diagnosis and treatment of specific injuries.

Chapters IX and X are devoted to the Workman's Compensation Law affecting fracture cases and the medicolegal aspect of fracture cases, all of which is productive of a complete text. A short histological discourse is incorporated in reference to the repair of fractures and this is followed by a discussion of factors tending to cause nonunion, two of which deserve the particular attention of those especially interested in this form of surgery. The magnitude of effort required to incorporate in a single volume all of the factors pertaining to the treatment of these conditions has, of necessity, caused a degree of restriction in complete or extreme elaboration on some of the fundamental principles involved. The originality and practicability of the text throughout emerges as a very important factor and, for this reason, places the book in a high plane as a source of reference for the busy surgeon.

To attempt to review a text of this magnitude and elaborate specifically on the different chapters would entail a discourse of excessive length, and for this reason the comments will not be as specific as may be expected or desired. The very fact that certain parts are not mentioned signifies that, in the reviewer's opinion, the subject matter is presented well and stands on its own as a sound discourse.

Skeletal traction assumes a most practical consideration, but at the same time does not detract from the importance or acceptability of other methods when properly applied.

One of the most gratifying thoughts that comes to the reviewer is the attention given to injury of the soft parts and their proper care. In the past too much attention undoubtedly has been given to the treatment of the fracture itself whereas, in many instances, the soft tissue damage has been of prime importance and that of the fracture secondary. Muscle injury, massive hemorrhage and ossifying changes often are more of a problem than the fracture itself. Peripheral nerve injury, its early recognition and treatment, cannot be too forcibly impressed in treatment of fractures and, at times, dislocations.

That portion of the text dealing with injuries in the region of the hip and their care is written in a clear, concise manner in which the detailed procedures are outlined and the management of this condition brought up to date. The very fact that proper reduction is demanded in fractures of the neck of the femur before fixation can be carried out has promoted a procedure that, except for the impetus given it by Royal Whitman several years ago, has not received the attention it merits. In conjunction with this, the details of reduction of fractures of the neck of the femur as explained by Dr. Ledbetter rounds out the text in an admirable fashion. Due consideration in every instance has been given to preoperative

and postoperative care. At this point a rather indefinite line of demarcation between neck and intertrochanteric fractures along with the best form of therapy indicated is, to a considerable degree, made definite and clear.

In old fractures involving the neck the reconstructive type of operation, of which there are many, and most recently the subtrochanteric osteotomy, high or low, may serve to clarify a heretofore not thoroughly satisfactory procedure due to the fact that so many types of operations have been devised. The authors, however, in this instance dealt more with the acute fractures than the care of the old conditions with reference to nonunion, head absorption, etc., in the region of the hip.

The chapter devoted to injuries of the spine is a classic within itself and I highly recommend that it be read with considerable care. In my opinion the 105 pages devoted to this discourse are worthy of the consideration of any surgeon. I may add that the Mills Table to get hyperextension is most satisfactory and may be incorporated in the methods mentioned to secure this position.

Throughout the text sprains and dislocations are thoroughly dealt with and do not need any particular review other than to urge their acceptance as a guide in the treatment of these conditions. In the aged the surgeon must never attempt reduction until the possibility of an associated fracture has been ruled out by x-ray, especially in the hip and shoulder.

The treatment of fractures of long bones, the tarsus and carpus, is uniformly complete and practical. I was particularly impressed with this portion of the text and justly so. Deformities of the tarsus and carpus following injury can be materially reduced by proper treatment.

In closing, it may be said that fractures, sprains and dislocations always demand consideration of each individual case and the procedure planned to meet the indication. The authors are desirous that this interpretation be given.

A rather short but concise chapter is devoted to compound fractures and war wounds with special reference to debridement, the use of sulfonamides, the Orr treatment and gas gangrene. At this particular time too much emphasis cannot be made and in the course of the war, much will undoubtedly be brought out. The text has incorporated these ideas up to, or as far as our present conception permits.

Knowing these two authors as I do and the combination of their efforts as co-authors in presenting this volume, I am of the opinion that it can be justly considered a standard text on the treatment of fractures, dislocations and sprains at this time.

W. C. H.

Communicable Disease Nursing. By Theresa I. Lynch, R. N., Ed. D. Cloth. Price, $3.75. Pp. 678, with 156 illustrations. St. Louis: The C. V. Mosby Company, 1942.

This valuable text on communicable disease nursing is complete in every detail. The first chapter gives a short historical introduction. The next three chapters deal with the medical aspects and nursing care of forty-five communicable diseases. The history, prevalence, etiology, source of infection, mode of transmission, susceptibility, pathology, incubation, diagnosis, clinical course, including complications and sequelae, period of communicability, prognosis and mortality, and treatment and method of control is given for each disease. The latter part of each chapter discusses the general nursing care, isolation, comfort of patient, diet, convalescence, administration of serum and serum sickness, disinfection, and community protection.

The last chapter deals with the community aspects of communicable diseases. Isolation in the home and the home care of patients are discussed in detail.

The appendix contains several valuable additions, including a list of the reportable diseases, the New York State requirements for communicable disease control, as well as a short description of those diseases not covered in the first discussion.

This book is clearly written and easily understood. It is a very valuable reference book for libraries of nursing schools and schools of public health nursing, and should be available in the office of every health department.

B. L.

War Medicine: A Symposium. Edited by Winfield Scott Pugh, M. D., Commander (M. C.), U. S. N., Retired. Formerly Surgeon, City Hospital, New York. With the assistance of Edward Podolsky, M. D., Associate Editor and Dagobert D. Runes, Ph. D., Technical Editor. Cloth. Price, $7.50. Pp. 565, illustrated. New York: Philosophical Library, Inc., 1942.

One need only glance at the table of contents of War Medicine to appreciate the usefulness of the book, made up of 57 papers by eminent contributors. Thus, under the surgical section of the volume, treatment of war burns, the diagnosis and treatment of secondary shock, anesthesia in war circumstances, and war wounds and compound fractures are discussed among other things.

Pages 331-449 are devoted to aviation and naval medicine, and the concluding one-hundred odd pages deal with subjects coming within the sphere of general medicine. Not the least important of these portions of the symposium on war medicine are the recognition and first aid treatment of gas casualties, painful feet, and the prophylaxis and treatment of epidermophytosis of the feet, topics that ought to claim the attention of physicians in civilian life no less than that of medical men serving with the military forces.

Indeed the entire volume can be studied with profit by physicians everywhere, regardless of the character of their clientele.

D. L. C.

Vitamins in Surgery—There is an increasing consideration of nutrition in surgery, prior to and following surgical operations, and it is a growing belief that the preparation and aftercare of a surgical patient may be fully as important as the skill and efficiency of the surgeon doing the operation.—*Howard, Northwest Med., August* 1942.











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1. McEachern, D.: *Canadian Med Ass'n. J*, 45:106, 1941.
2. Lennox, W. G.: *Med Ann. Dist. Col.*, 10:461, 1941.

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Miscellany

MEDICAL COLLEGES TO GRADUATE RECORD NUMBER IN NEXT 3 YEARS

ACCELERATED CURRICULUM TO MEET WAR NEEDS WILL RESULT IN 21,029 PHYSICIANS BEING GRADUATED BY APPROVED SCHOOLS BY 1945

During the next three years 21,029 students will be graduated by approved medical schools of the United States as a result of accelerated programs initiated to meet the unprecedented demand for physicians brought about by the war. This estimate is contained in the forty-second annual presentation of educational data by the Council on Medical Education and Hospitals of the American Medical Association, published in the August 15 issue of The Journal of the Association. This is "5,082 more than would have graduated without the adoption of the accelerated programs," the report says. "There are in addition approximately 220 students from the United States in the medical schools of Canada. With the adoption of the accelerated programs by these institutions it is anticipated that practically all of this group will also be graduated by June 30, 1945."

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PREPARATION OF HUMAN PLASMA*

ITS USE IN THE TREATMENT OF SHOCK

By
I. MILTON WISE, M. D.
Mobile, Alabama

All the various methods for the preparation of plasma depend upon the same principle of drawing whole blood by vacuum or suction into a container containing an anticoagulant solution, separation of the plasma from the cells by sedimentation or centrifugation and removal of the plasma, and storage either in the diluted or concentrated form.

PREPARATION OF HUMAN PLASMA

In the plasma bank in operation at the Mobile Infirmary, we use the preformed vacuum bottles according to the Baxter technic. After a history and physical examination are made upon the donor and the site of venipuncture is prepared, 250 cc. of whole blood are drawn into two separate "Centrivacs" containing sodium citrate solution. The blood remaining in the tubing is divided into test tubes; in one, serum is collected for the Wassermann and Kahn tests, and in the other whole blood in the citrate solution for typing. The bottles containing the blood are then refrigerated at 4° C. for 12 to 24 hours. During this time the serology is completed. The bottles are then removed from the refrigerator and placed in centrifuge cups that have been previously cooled and accurately weighed to balance and the blood is centrifuged for one hour at 2000 revolutions per minute to obtain the plasma free from cells. The plasma is then aspirated into one or two liter "Plasma-vac" pooling bottles, and the plasma from several different donors of different blood type is in this way pooled. Five cc. of the pooled plasma are then introduced into 40 cc. of Brewer's medium for aerobic and anaerobic culture. Merthiolate is added to the plasma to a concentration of 1:10,000, and the plasma is then aspirated into the final bottles. Some of it is put up undiluted; other is diluted 50% in normal saline or in 5% dextrose in saline. The last portion of the plasma to be aspirated is again cultured in Brewer's medium as a check on the technic during aspiration. The cultures are observed on the 3rd, 7th and 14th days. If there is no growth the plasma is then ready for use. Plasma is stored at all times at 4° C. Frequently a light fibrin veil is deposited in the stored plasma which in no way affects the product, and since plasma must be filtered during administration, any fibrin that has formed will be removed.

The manner of preservation of plasma has a definite influence on the contained specific elements, as antibodies, prothrombin and complement.[1] The four methods for the preservation of plasma, in order for producing the best therapeutic agent, are: one, in the frozen stage. This is considered the best

*Read before the Association in annual session, Montgomery, April 21, 1942.

Since the preparation of this paper there have been several changes in the technique of preparation of plasma following the suggestions of Commander L. R. Newhouser (MC) USN of the Naval Medical Center. Instead of one culture of the finished pool of 5 cc. of plasma into 40 cc. of Brewer's medium, now 3 cc. of plasma are cultured in three separate tubes containing 20 cc. of Brewer's medium. Instead of making one culture of the final remaining plasma after addition of merthiolate, now the last 100 cc. remaining in the 2,000 cc. pool are aspirated into a bottle marked Pilot. This bottle is incubated at 37 C. for 48 hours; then 3 cc. of this are incubated in three separate tubes containing 20 cc. of Brewer's medium. The pilot bottle is retained as a control until all of the pool is dispensed.

1. Strumia, M. M., and McGraw, J. J.: Blood Plasma; Its Place in the Practice of Medicine, with Special Consideration to Problems of Preservation, J. A. M. A. 118: 427-429 (Feb. 7) '42.

method because all of the specific element as well as prothrombin and complement are preserved, and after thawing rapidly at 37° C. need not be filtered before use. However, it must be kept at room temperature until administered. Second, preservation in the liquid form at 4° C. This effectively prevents bacterial growth as well as flocculation. Prothrombin and complement are fairly well preseved for at least 50 days. However, filtration is necessary during administration and the plasma must not be artificially warmed before administration. Third, method of administration in the liquid form at room temperature. This effectively prevents flocculation but bacterial growth is enhanced and there is a rapid loss in the prothrombin and complement content. Filtration is necessary during administration. The fourth method, and perhaps the least effective of all for the preservation of plasma, is the dried state. This manner, however, does control bacterial growth and when the product is regenerated with distilled water the plasma has lost practically all of its prothrombin content and most of the complement. Filtration is not essential during administration.

MECHANISM OF SHOCK

Since the greatest use for plasma is for the treatment of shock, no matter from what cause, it might be well to discuss mechanism and morbid anatomy of this condition. Moon has made an exhaustive study of shock, and he defines the condition as follows: a circulatory deficiency, not cardiac nor vasomotor in origin, characterized by capillary permeability, decreased blood volume, decreased cardiac outflow and by hemoconcentration.[2,3,4] The causative agent is trauma, either with or without hemorrhage, whether from civil, military or industrial causes or following surgical or obstetric procedures. Trauma is the initiative agent that causes an immediate decrease in the blood volume, and diminished blood volume following hemorrhage causes a peripheral circulatory failure. The compensatory mechanism of vasoconstriction, and transfer of fluids from tissue to return the volume, results only in a blood dilution. The effects are transient and of no consequence. If the hemorrhage is severe and the compensation not sufficient, peripheral circulatory failure will result and shock due to hemorrhage will be present.[2] When the loss is from capillaries due to direct damage, anoxia of tissue, toxins, or increased permeability of the capillary walls, it allows the escape of plasma in greater proportion to red cells and shock results due to plasma loss. As a result of the diminished circulating blood volume, the tissues receive inadequate oxygen supply. This causes increased capillary permeability with leakage of plasma into the tissues and serous cavities. A retarded circulation causes an impairment of renal function and a disturbed acid-base equilibrium which permits further leakage of plasma so that a vicious cycle is created. The hemoconcentration and lowered temperature cause increased viscosity of the blood, decreasing the return flow to the heart, further diminishing circulating blood volume and resulting in increased anoxia and death.

MORBID ANATOMY OF SHOCK

The morbid anatomy of patients dying from shock, whether after burns, trauma, surgical or obstetric procedures, presents typical findings.[3] There is an intense cyanosis of all the serous membranes with effusion of blood-tinged fluid into the serous cavities having a high protein content. There is a marked atony as well as dilatation and relaxation of the entire gastrointestinal tract. The stomach contains an excess fluid which is flecked with brown particles, and the capillaries and small vessels are markedly congested with relatively little blood present in the larger vessels. Hyperemia and congestion are present in the liver, lungs and kidneys and the cut surface of the organs that frequently drip and ooze blood. Petechiae are found in the brain, adrenals, pleura and urinary bladder. The microscope reveals a congestion and distention of the capillaries of the parenchymatous organs as well as many degenerative changes. Necrosis is a prominent feature in the liver, either of the focal or massive type. Occasionally there are found areas of degeneration in lymph nodes as well as in the myocardium. Terminal pneumonia may be a delayed result of the edema produced by filling the pulmonary alveoli with fluid containing red

2. Kilduffe and De Bakey: The Blood Bank, St. Louis, The C. V. Mosby Company, 1942.

3. Karsner: The 1941 Year Book of Pathology and Immunology, Chicago, The Year Book Publishers.

4. Moon, V. H.: Hemoconcentration as Related to Shock, Am. J. Clin. Path. 11: 361-387 (May) '41.

cells during the period of increased capillary permeability.

INDICATIONS FOR PLASMA TRANSFUSIONS

Strumia and McGraw[2,5] have listed the indications for the use of plasma.

1. *Shock*: In shock from hemorrhage, plasma is the only solution given intravenously that approximates the result obtained with whole blood.[2] Substitute solutions are of value in order named: serum, hemoglobin, Ringer's solution, gum saline, red cells in crystalloid solution, isotonic saline and isotonic glucose. From this tabulation it is evident that the two most widely used intravenous solutions, isotonic glucose and isotonic saline, are the least efficacious of all medications for combating shock. In acute hemorrhage, cellular as well as fluid content is lost. The best immediate replacement fluid to combat the emergency is plasma followed by whole blood as the decreased red blood count present embarrasses the oxygen carrying capacity of the blood and increases tissue anoxia and capillary permeability. In shock due to trauma without hemorrhage, following burns, crushing injuries or visceral exposure, there is a plasma loss with leakage of plasma into tissue serous spaces with a resulting hemoconcentration. In this condition, plasma alone is indicated in large enough quantities to replace the volume, and the administration of whole blood is contraindicated.

 a. Surgical shock, including bleeding ulcers, tuberculosis with hemorrhage, exposure of abdominal viscera, either during prolonged surgical procedure or after accidents.
 b. Traumatic shock with or without hemorrhage.
 c. Obstetric shock, due to ruptured uterus, ectopic gestation, placenta previa, premature placental separation, and with postpartem hemorrhages.

2. *Burns*: In burns there is a large surface of denuded epithelium through which there is a great plasma loss. Severe hemorrhage, primary or secondary may be present following burns. The acid-base equilibrium is soon disturbed, and the potassium content of the blood rises sharply, which causes a lengthened cardiac systole. Death in cardiac systole may be the result of a hyperpotassinemia.

3. *Infections*: Plasma is indicated in staphylococcic and streptococcic bacteremia and septicemia, and in puerperal sepsis, with or without bacteremia. Plasma in these conditions frequently supplies needed antibodies and is used to combat anemia, regularly present.

4. *Hypoproteinemia*: There is a marked decrease in plasma protein in many nutritional disorders, such as excessive vomiting, chronic gastrointestinal disease, gastrointestinal malignancy and ulcers, chronic enteritis, ulcerative colitis, and during intestinal obstruction. Hypoproteinemia is also present in many hepatic conditions, in biliary fistula, and in certain renal lesions of the nephrosis type.

5. *Cerebral edema*: Plasma is indicated in cerebral edema whether due to injury or toxemia.

6. *Blood dyscrasias*: In most blood dyscrasias and anemias whole blood is more indicated than plasma[2] as the rationale here is one of replacement therapy and is indicated in hemolytic icterus, icterus gravis, acute hemolytic anemia, pernicious anemia, aplastic anemia, and the aplastic anemia due to radiation, from benzol poisoning, arsphenamine poisoning, and as a supportive measure in agranulocytic angina when the origin is from chemicals, infections or radiant energy. In these conditions supportive treatment by replacement therapy is indicated while the treatment is directed toward eradication of the primary cause. Plasma is indicated in hemolytic diseases, hemophilia and purpura. In hemolytic diseases plasma will also often provide antibodies and prothrombin. In hemophilia[2] there is the belief that there is a deficiency of thromboplastin, and the platelets of the patient show more resistance than normal. In purpura with a deficiency in platelets and bleeding tendencies, plasma is indicated.

ADVANTAGES OF PLASMA

1. Typing and cross matching are not necessary. During the pooling of plasma from at least ten donors, the agglutinin A and B and the iso-agglutinin alpha and beta are neutralized and rendered inactive.[2] For this reason pooled plasma can be given to a patient regardless of the type.

2. Plasma is available in any emergency as large quantities can be prepared in advance, stored safely for a long period without deterioration, and can be made available immediately.[2]

3. Plasma can be transported by any means safely and without inconvenience.

4. Plasma can be administered with the simplicity, facility and the familiarity of saline solution.

5. Its use is free from reaction. Large and repeated doses can be given at any time without untoward results.

6. Its use does not increase the concentration of the red blood cells.

7. Plasma can be given intravenously, intramuscularly, and subcutaneously.

THE HEALTH OF THE CIVILIAN POPULATION*

By

FELIX J. UNDERWOOD, M. D.

Executive Officer

State Board of Health

Jackson, Miss.

"It *has* happened here." That is a statement commonly heard from many formerly proud democracies which have been forced to bow to Axis domination. We hear it also from countries which have not been occupied but which have been attacked, even though attack seemed impossible a short time ago. Blood and tears must be the payment for complacency and lack of preparation. That fact has been brought home to us in the tremendous losses we have already suffered. Surely it would seem that we learned our lesson at Pearl Harbor! However, there are many people who feel that the war is a sufficient distance away to insure that *they* will remain unharmed. A letter received from a young lady who formerly worked for the Mississippi State Board of Health, and who is living in Honolulu at the present time, might help to drive home the potential dangers ahead of us if everyone doesn't remain on the alert and be prepared for any contingency. Writing on the Japanese attack to a friend back in Mississippi, she states:

"Sunday morning we were awakened by planes flying overhead and Angus (her husband) got up to watch the maneuvers, thinking of course they were our own planes. I only wanted to sleep, and even when he kept telling me that it was more interesting than usual I didn't want to get up. Finally, the bombing got so bad that the bed was practically falling apart and the house was shaking so that I thought the windows would break, so I got mad and got up. We went outside and watched the planes overhead. Our next door neighbor joined us and the three 'nuts' stood under the planes which were swooping down throwing bombs on the Naval Station at Kaneohe which is out in the bay in front of our house. Really it was the most beautiful flying I had ever witnessed and when the machine gunning started I thought it was getting too real for any fun. We saw two planes anchored in the bay go up in flames and a hangar containing planes (I don't think I am supposed to mention numbers since I'm not actually sure but I do know how many they had and how many they have left and two and two make four, but we have been asked not to try to tell tall tales so we will skip that) burned all day long.

"In the meantime Angus had left to get a paper and the radio had come on saying we were being raided but we *still* thought it was practice until the hangar started burning. The planes in the water could have been decoys, but as it happened of course they weren't. We were close enough to the planes overhead to see the sign of the Rising Sun on the wing tips, and our neighbor said of course they just painted that on our own planes to make everything realistic so that they could find out just how we would react here. At other bases they turned their machine guns on the people and we are just lucky that they didn't bother with us but they had a military objective and specific job to do and just couldn't waste time and bullets on us. At twelve o'clock we heard the report from Washington and knew that it was a real attack.

"This isn't to get anybody all worried about us because now we feel protected that our Navy and air stations are on the alert. They were just caught napping—and I really mean caught and I should think they all feel disgraced at not being more on the alert, but everything was so unexpected and over in an hour or so. Of course there are rumors all about of what has happened and what our Navy has done to the Japs in the meantime but I won't try to write that because you probably will know as much as we do. It's impossible to tell what is true and what isn't. All we are certain about is what we actually saw—and I saw those planes and the machine gunning and bombing right under my nose.

"I think one place is about as safe as another but the thing is you like to be with people and it has been nice to be in town. Human nature is funny and I guess it is just as well that we are built that way. *Somebody is going to be hurt but each person thinks he is going to be the lucky one and escape.* It really hasn't occurred to any of us that we are actually in danger ourselves and I wouldn't leave for anything. Now that the excitement has died down the blackout has begun to be a nuisance. Night after night we can't even light a candle but I suppose we'll get used to it."

5. Strumia, M. M., and McGraw, J. J.: Preparation and Preservation of Human Plasma, Am. J Clin. Path. 11: 288-306 (April) '41.

*Presented before the annual conference of the Public Health Workers of Alabama, Montgomery, February 9, 1942.

Surely public health workers, who have battled epidemics of disease and many other menaces to health, do not have to be jarred into a realization of the seriousness of the present crisis and the important contribution they can make to the total defense effort by helping to promote maximum physical fitness and protecting against disease. No nation can profess strength whose people are handicapped by disease. Therefore, our part in the work ahead is to throw our full resources and training into the building of health to make possible a strong nation of both men and equipment. With better organization, more adequate knowledge and skill, and better trained personnel to execute this knowledge, public health commands a place of unparalled importance today in developing the health and efficiency of our civilian and fighting forces. The present conflict is no ordinary war, we well know. Total production and total efficiency are the primary issues involved in this mighty military effort, and it goes without saying that the forces possessing these qualities in greatest abundance will ultimately triumph. Therefore, let us concentrate not only upon the health of those who carry the rifles, pilot the planes, or drive the tanks, but also upon those workers and civilians whose responsibility it is to produce modern military equipment and to maintain morale on the home front. Military strength is dependent upon this, and to successfully accomplish the job before us there must be intelligent cooperation, careful planning and a willingness to sacrifice on the part of everyone. The whole problem is one of teamwork and means sharing the responsibility for the common good.

We know from long experience that mobilization of troops increases the incidence of communicable diseases. Therefore, we must put to work all precautionary measures which modern public health has proved to be effective and leave nothing undone which will reduce preventable illnesses and disabilities.

Experiences gained during World War I will help us to cope more efficiently with many phases of the present emergency and to avoid many mistakes. In fact, ironic as it may seem, tremendous impetus was given both medical and public health advances during the first war which tend to offset or compensate in some measure for the great loss of life and destruction of property. It all seems to bear out a statement once made by the illustrious Dr. Charles Mayo, who said: "When the institutions, the freedom, the wealth, the health and the very lives of a people are jeopardized by destructive forces from without, the primal instinct of self preservation becomes a spur to endeavor and accomplishment"—and war, tragic as it is, seems to leave some good in its wake.

In the previous war, sanitary knowledge advanced rapidly and many of our most effective public health procedures of today evolved from this period. The efficacy of immunization procedures against typhoid fever and tetanus was definitely established. Trench fever was brought under control. Botulism was discovered to be caused not only by contaminated meats but by improperly canned vegetables which had become infected. There was acquired increased knowledge regarding the dangers of overcrowding and the importance of isolating cases and segregating contacts exposed to meningitis, influenza, and other infectious diseases.

Already, in the present war, there has been witnessed an amazing demonstration of the efficacy of the sulfonamide drugs in fighting infection. Following the Pearl Harbor attack, men who under former conditions would have died experienced speedy recovery as a result of prompt attention to their wounds and the dusting on of powdered sulfanilamide. It has been reported that not a single loss of arm or leg was necessary because of infection.[1] This is quite a record and also a tribute to the alertness and efficiency of the Army Medical Corps at Hawaii.

We shall doubtless hear more such reports of medical progress as time goes on. In the meantime, let us consider what our contribution will be. Upon our shoulders rests much of the responsibility for maintaining and keeping strong the home front. Through widespread application of modern public health procedures, we can add enormously to the strength of the nation in this uneasy hour. Consider this a challenge if you will and bear in mind that the manner in which you measure up to your opportunities as health workers may have a helpful influence on the course of future events and in

1. Science News Letter 41: 51 (Jan. 24) 1942.

turning the tide for victory. We know that military public health depends in the long run upon the status of civilian public health and that no more important preparation for national defense exists than meeting the health needs of both groups. We are resolved therefore, to do the best we can with the personnel and resources available—this, in spite of the increasing number of new public health problems and the decreasing number of trained workers to do the job before us. Since we cannot hope to tackle all needs, the logical procedure is to begin with the most urgent and work on down the list, achieving all we can. First and foremost of our objectives as public health workers should be the following:

1. *Communicable Disease Control*, with especial reference to the venereal diseases.

2. *Sanitation.* The very elemental phases of health work need more emphasis, particularly ordinary sanitation, safe water and milk supplies, protection of the food supply, sanitary methods of excreta disposal, and drainage.

3. *Industrial Hygiene.* With production of tools and equipment, a primary essential to defense, the health of the worker assumes a place of first importance. It must not be neglected!

4. *Rehabilitation.* So much could be said on this subject! Based upon the large number of rejectees which the Selective Service boards have disclosed, it goes without saying that immediate action is imperative which will correct remediable defects and boost the physical status of these rejectees. Everyone has a part in this war, no matter what their station, color or creed, and to do the job successfully physical fitness is the first essential.

The lesson that public health gains from the startling discovery that so many are incapacitated for active military service is that mere absence of disease does not necessarily imply that one is enjoying maximum physical efficiency and well-being. Consequently, the future will likely see greater emphasis than ever before on *promotion* and *conservation* of health as well as prevention of disease. It is time to begin applying on a universal scale the excellent store of knowledge we have been accumulating for some years for practicing *personal* preventive medicine and hygiene. That knowledge, properly recruited, will strengthen immeasureably the nation's defenses. It remains for public health to assume the leadership in putting it to work, instilling in people a greater sense of personal responsibility for health and physical fitness.

In spite of the chaos of this period there are wonderful opportunities for those with public health training and experience to make lasting contributions to benefit mankind. Aside from fulfilling our duty to the national defense effort, think how much it would mean if in the process of giving our resources and talents to the preservation of our democracy, we are also successful in liberating man further from the primitive and elementary bonds of ignorance, superstition and disease. Public health has had a dramatic history but I do not believe it ever had more to offer than it does today. It is for you and me and other co-workers to put our shoulders to the wheel and work unceasingly until we have achieved the goals we know are within reach and have turned the tide for a victory which will be permanent and enduring.

SULFATHIAZOLE INTOXICATION*

By

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The advances in chemotherapy have been little less than amazing since Domagk presented his report on the use of prontosil in 1935. In the intervening seven years, numerous related compounds have been introduced. Of these, sulfathiazole, synthesized in 1939, has been accepted with general enthusiasm by the medical profession because of its effectiveness and its apparent lowered degree of toxicity.[1] This enthusiasm has been transmitted to the laity, and it is probable that at the present time sulfathiazole is the most widely used sulfonamide. Earlier reports on the use of the drug stress the excellent therapeutic results in pneumonia and other infections with only incidental mention of toxic effects. The recent trend has been toward a recognition of serious reactions, reactions which in the first rush of

*Read before the Tuscaloosa County Medical Society, Tuscaloosa, June 8, 1942.

1. Spink, W. W.: Sulfanilamide and Related Compounds in General Practice, Pp. 189-194, 199-201, Year Book Publishers, Chicago, 1941.

enthusiasm were possibly masked by the very nature of the diseases being treated.

Within the past few months there has been a number of deaths reported following sulfathiazole therapy.[2,4,8] Unlike the isolated instances of toxicity such as acute hemolytic anemia[3,5] or cutaneous reactions[6,7] these fatal cases present renal complications and visceral involvement, appearing either with the so-called drug fever or cutaneous manifestations or both. The most recent of these reported cases is that of Lederer and Rosenblatt, four deaths being attributed to sulfathiazole intoxication.[2] All of the four cases developed high fever, some with accompanying chills, followed by oliguria or anuria and nitrogen retention. Two of the four presented cutaneous lesions. All of these cases were autopsied, and, in addition to sulfathiazole crystals in the renal tubules, there were varying degrees of focal necrosis in the kidneys and other viscera. Just prior to this, Winsor and Burch reported six cases, three being fatal.[8] The autopsy findings in these were similar, although visceral focal necrosis was not noted in organs other than the kidney. Of the three fatal cases, one had as little as ten grams of sulfathiazole. The three patients that recovered received sixteen, eight, and nine grams of the drug respectively. In each of these three cases there was an increase of the nonprotein nitrogen of the blood with hematuria and albuminuria. Two of the patients required cystoscopy and ureteral catheterization, while the third did not develop oliguria. Clinical improvement corresponded to the renal function, as reflected by the amount of urine excreted and the level of the blood nonprotein nitrogen, but had no direct relationship to the blood sulfathiazole level.

Three cases* are to be presented illustrating what is believed to be similar sulfathiazole toxicity. Through a combination of fortuitous circumstances, these cases all recovered.

REPORT OF CASES

Case 1. Mrs. R. H. The patient, a white female, age 45, was admitted to the hospital on May 16, 1941. Her illness began on May 3, 1941 when she noted headache and pain over the upper portion of her face. Two days later this became more severe, and she was put to bed. At this time she also complained of pain in her teeth and lower jaw. Physical findings at this time were negative except for low-grade fever. Shortly after this, sulfathiazole was started in small doses. However she did not seem to improve, and there was a gradual increase in temperature. On May 16, she was admitted to the hospital for diagnosis, the total amount of sulfathiazole administered during this period amounting to approximately 15 grams. Upon admission her temperature was 102 (R), pulse 90, respiration 20, B. P. 118/78. She seemed acutely ill, but the lungs were clear, and the heart and abdomen apparently were not abnormal. Neurologic examination was negative. An x-ray examination of the sinuses revealed no abnormality. Urinalysis was reported as one plus albumin, two plus hyaline casts, no red blood cells. The hemoglobin was 78%, R. B. C. 4,030,000, W. B. C. 8,550, P. 83, L. 16, M. 1. Blood culture and agglutination tests were negative. She was given sulfathiazole, 0.5 gram every fourth hour. On May 17 her temperature reached 104 (R), the sulfathiazole being continued in the same dosage. The total fluid intake for the twenty-four hour period was 2700 cc. with a urinary output of 1530 cc. The next day, May 18, she had a chill lasting forty-five minutes, followed by a rectal temperature of 104.2. Despite a fluid intake of 3000 cc., her urinary output dropped to approximately 540 cc. On May 19 the temperature was 105.6 (R), pulse 130, B. P. 100/80, total fluid intake 2700 cc., urinary output approximately 780 cc. The urine revealed one plus albumin, one plus casts, and an occasional R. B. C. Because the infection apparently was not responding to sulfathiazole, the drug was stopped after a total of 10.5 grams had been given during hospitalization. She was then started on sulfapyridine, one gram every fourth hour. Her condition grew steadily worse and on May 20 her blood pressure had fallen to 90/70, the temperature was 104 (R), and she was quite cyanotic. The pulse ranged from 120 to 140 per minute, and the extremities were cold and clammy. A diagnosis of drug fever with peripheral circula-

*I wish to express my appreciation to Dr. J. E. Shirley for his permission to report these cases.

2. Lederer, M., and Rosenblatt, D.: Death During Sulfathiazole Therapy, J. A. M. A. 119: 8-18 (May 2) 1942.

3. Rothstein, I., and Cohn, S.: Acute Hemolytic Anemia; Auto-Agglutination, Toxic Hepatitis, and Renal Damage Following Sulfathiazole Therapy; Case Report, Ann. Int. Med. 16: 152-161 (Jan.) 1942.

4. Smith, F. J., and Delaney, J. H.: Kidney Complications in the Chemotherapy of Pneumonia, Tr. Am. Climat. & Clin. A. 57: 1-12, 1941. Cited by Bradford, H. A. and Shaffer, J. H.: J. A. M. A. 119: 316-318 (May 23) 1942.

5. Bunim, J. J., and Israel, M.: Acute Hemolytic Anemia Caused by Sulfathiazole, Ann. Int. Med. 16: 333-339 (Feb.) 1942.

6. Volini, I. F.; Levitt, R. O., and O'Neil, H. B.: Cutaneous and Conjunctival Manifestations of Sulfathiazole Intoxication, J. A. M. A. 116: 938-940 (March 8) 1941.

7. Weinstein, M., and Domm, A. H.: Development of Acute Exfoliative Dermatitis During Administration of Sulfathiazole, J. A. M. A. 117: 607-608 (Aug. 23) 1941.

8. Winsor, T., and Burch, G. E.: Renal Complications Following Sulfathiazole Therapy, J. A. M. A. 118: 1346-1353 (April 18) 1942.

tory failure was made, and for this reason the sulfapyridine was stopped, a blood transfusion was given, and the patient placed in an oxygen tent. During this twenty-four hour period the patient received 3600 cc. of fluid by various routes, and voided 600 cc. of urine. There was some response to the treatment for peripheral failure, and on May 21 the temperature was 101 (R), the pulse 118. The total fluid intake was 3600 cc.; urinary output 1200 cc. From this point she improved more rapidly, and by May 23 the temperature was 100 (R) and the B. P. 125 80. Her output was not recorded, but it was noted on the chart that she was voiding freely. The urine was negative for albumin and R. B. C. and contained one plus casts. Improvement continued, and the patient left the hospital in good condition on May 28, the final diagnosis being drug fever due to sulfathiazole.

Case 2. Miss G. J. The patient, a white female, age 87, was admitted to the hospital on January 14, 1942 in an advanced stage of cardiorenal disease. She had been vomiting practically everything she had taken for several days, and complained of left thoracic pain. Physical examination revealed an enlarged heart with loud systolic aortic and mitral murmurs, as well as generalized arteriosclerosis. X-ray examination confirmed the clinical impression of cardiospasm. The urine had a specific gravity of 1012. and contained one plus albumin, no sugar, and no casts or R. B. C. The hemoglobin was 110%, R. B. C. 5,750,000, W. B. C. 8,200, P. 63, L. 36, M. 1. She was given supportive treatment and tube feeding and improved slightly. On February 13 she was more restless and complained of dysuria. The temperature rose to 101 (R), and the urine contained numerous white blood cells. By the next day, February 14, she was confused and drowsy, and the temperature was 102.6 (R). This was presumed to be due to an acute cystitis, and she was given three grams of sodium sulfathiazole intravenously and started on one gram of sulfathiazole by mouth every four hours. Much of the latter was not retained until a tube was introduced for duodenal feeding on February 16. The temperature remained between 101 and 102 (R), but she appeared to be even more drowsy and confused. Urinalysis on February 18 was reported as one plus albumin, occasional R. B. C., three plus W. B. C., no casts. On February 21 a maculopapular rash was noted on the dorsum of the hands and on the face and rapidly spread to much of the body. As soon as this rash was noted, the sulfathiazole was discontinued, a total of thirty-two grams of the drug having been given. Forty-eight hours later the temperature was normal and there was definite general improvement. The skin eruption faded gradually and disappeared in five to seven days. The improvement persisted and the urine contained definitely fewer W. B. C. On March 14, the patient died suddenly and unexpectedly of a massive pulmonary hemorrhage. Autopsy permission was not obtained.

Case 3. Mr. D. W. The patient, a white male, age 68, was admitted to the hospital on May 3, 1942. He had always been well before the present illness. During the last week in April he developed an upper respiratory infection. This gradually became more severe, and on April 28 the temperature was elevated, there was a productive cough, dyspnea, and numerous rales were present throughout the lungs. He was started on sulfathiazole in fairly small amounts. On May 1 oliguria was noted, and the temperature was higher. The sulfathiazole was stopped, a total of approximately ten grams having been given. The oliguria progressed to almost complete anuria, and on May 3 he was brought into the hospital. On admission he was acutely ill, drowsy and confused. The temperature was 99.6 (R), pulse 86, respiration 22, B. P. 128 70. There was a maculopapular rash on the dorsum of the extremities and over the thorax. The tongue and skin were dry and non-elastic. Palpation and percussion of the lungs were negative, but there were numerous moist rales throughout the lungs. The heart was within normal limits. The abdomen was distended and the reflexes hypoactive. One-half ounce of urine was obtained by catheter, revealing three plus albumin, a few R. B. C., no casts, one plus unidentified crystals. The hemoglobin was 84%, R. B. C. 4,360,000, W. B. C. 8,900. P. 89, L. 11. A total of 4000 cc. of fluid was administered in the first twenty-four hours with the total urinary output consisting of the above mentioned fifteen cc. of urine. On May 4 the temperature was 101 (R), and he was definitely worse. The total intake was again 4000 cc. with slightly more than thirty cc. of urine being obtained by catheter. The non-protein nitrogen of the blood was found to be 70 mg.%. On May 5 the non-protein nitrogen was 75 mg.%, and again practically no urine was passed. Cystoscopy was performed, and an unsuccessful attempt was made to pass ureteral catheters. This failure was due to inability to find the ureteral orifices and not to any mechanical obstruction. The total fluid administered was cut to 2200 cc. on May 6, including the 200 cc. of 50% glucose he had been receiving intravenously since May 4. The non-protein nitrogen was 90 mg.%, and his condition was more desperate, although it was noted that the rash was fading rapidly. A non-protein nitrogen was not done on May 7, but the blood urea nitrogen was found to be 42 mg.%. He received 2400 cc. of fluid and voided 60 cc. At this time the patient was semicomatose, there was muscle twitching, and the respiratory rate varied from six to eight per minute. By the next day the non-protein nitrogen was 111 mg.%, and he voided 600 cc. of urine. On May 9 the urinary output rose to 1500 cc., while the non-protein nitrogen remained 109 mg.%. During the morning of May 10, the coma became more profound, the respiration remained six per minute, and the pulse was weak and irregular. There was some improvement during the day, and by the morning of May 11, he was less comatose, the respiration was sixteen per minute, the non-protein nitrogen 87 mg.%, and urinary output 3060 cc. There was continued mental improvement with daily urinary output of over 3000 cc. for the next three days. The non-protein nitrogen on May 18 was 50 mg.%. The urine revealed one plus albumin, one plus R. B. C., no casts. Improvement contin-

ued, and he was able to be removed from the hospital by ambulance on May 23. The final diagnosis was urinary suppression with uremia, due to sulfathiazole.

These cases are presented in chronologic order, for they represent the arrival at the conclusion that sulfathiazole intoxication was responsible for the clinical picture in each instance. The first case was originally believed to be a septicemia following a low-grade sinusitis. Sulfathiazole in adequate dosage appeared to have no effect in combating the infection, so sulfapyridine was substituted. The latter was discontinued when it was felt that there was a possibility that the condition might be drug fever due to sulfonamides. Even after the patient recovered, there was no thought that sulfathiazole intoxication with renal complications might have been the etiologic factor. However, upon reviewing the chart one year later, it is obvious that her clinical condition corresponded with the urinary output. Because of the lack of such a working diagnosis, we have no blood chemistry or blood sulfathiazole studies.

The second case is noteworthy in that as soon as the rash appeared, the drug was stopped. The appearance of the rash, combined with coincident increase of fever, obviously implicated sulfathiazole as the etiologic agent. This was confirmed by improvement following discontinuance of the drug. Although by this date reports had appeared on renal damage and crystalluria, it was believed that the rash and the fever represented sufficient toxic effects to explain the clinical picture. Therefore no studies were done to detect possible nitrogen retention.

Case number three, with oliguria and uremia, occurring along with fever and a cutaneous eruption, appears to be an even more advanced stage that the two previous cases fortunately did not reach. The autopsy findings reported in the two papers cited above, as well as the similarity of the clinical course, make it possible to arrive at the conclusion that each of these three patients suffered from sulfathiazole toxicity. This is not merely an abnormal response to the drug but a definite intoxication, probably involving all the viscera, certainly involving the kidneys, and manifested by chills and fever, cutaneous lesions, and a decrease in urinary output with abnormal urinary findings. Each of these untoward complications of sulfathiazole therapy has been noted separately or in combination, but it now appears that any or all are indicative of sulfathiazole intoxication. Whether this is a direct toxic action of the drug or whether it is due to an acquired sensitivity is not yet known[2] but it does occur.

The management of these cases has varied with each author who has reported them. Sulfathiazole is discontinued as soon as any cutaneous eruption is noted, upon the occurrence of a diminished urinary output, the appearance of red blood cells or casts in the urine, or in the presence of chills and high fever which appear after the drug has been started. The fluid intake is maintained around 4000 cc. per twenty-four hours, although care must be taken that not more than ten to fifteen grams of sodium chloride are included in the total amount. Sufficient sodium bicarbonate or other alkali should be given to ensure an alkaline urine. From 100 to 200 cc. of 50% glucose may be given daily by intravenous injection for its diuretic effect, but mercurial diuretics are contraindicated because of the damaged renal tubules. The appearance of peripheral circulatory failure must be anticipated and treated with plasma infusion or blood transfusion and the administration of oxygen. In the face of progressive oliguria, cystoscopy is indicated with catheterization of the ureters. The ureteral catheters should be left in place and the renal pelves lavaged with warm water or saline every two hours.[8]

The proper handling of this condition is dependent above all upon early recognition. Because of the very nature of the diseases for which the drug is indicated, such recognition may be difficult. Chills and fever are concomitant with infectious disease, and unless there is sharp vigilance and realization that this syndrome exists, an increase in the amount of sulfathiazole being administered might seem to be the logical course.

Recognizing the existence of this syndrome, a few simple precautions may serve as prophylaxis. The urine as well as the blood should be examined before sulfathiazole is given. Pathologic changes in either should be regarded seriously. An accurate record of fluid intake and output should be demanded while the drug is being administered. Maintenance of the fluid intake at

3000 cc. for the twenty-four hours is essential, and a daily urinary output of less than 1500 cc. should be regarded with suspicion. Administration of a suitable alkali is valuable in so far as preventing to some extent the formation of crystals in the renal tubules is concerned. The appearance of chills and fever or a rash is usually an indication that the sulfathiazole must be discontinued. Lastly, the indications for the use of sulfathiazole must be narrowed. Mild, self-limited conditions which will respond to simpler measures should not be treated with a drug which demands such vigilance during administration and which possesses such dangerous potentialities.

Since two of these cases recovered and the third died some time after the sulfathiazole was stopped, there is no postmortem evidence upon which to base these conclusions. Nevertheless the close correlation with those cases which have been more carefully studied and in which the conclusions have been proven at autopsy seems more than mere coincidence. Such a conclusion also coincides with the dramatic recovery after the discontinuance of sulfathiazole and explains a clinical syndrome that otherwise defies explanation. The appearance of three such cases upon one service with a small number of patients receiving sulfathiazole makes it appear that this condition is more common than is now believed. Further reports should be forthcoming and will aid in the final evaluation of this valuable drug and its related sulfonamides.

Therapeutic Procedures in Bronchial Asthma—There are several drugs which should be employed in cases of bronchial asthma only with much caution.

Phenobarbital and its derivatives have been mentioned. In many cases of asthma, they may produce an obscure and insidious increase in the asthmatic symptoms which they are intended to prevent. The reaction may be delayed by twenty-four hours or more, so that when given in combination with ephedrine the disturbing influence of the phenobarbital usually outlasts the effect of the ephedrine and is misinterpreted as the need for further similar medication, thus quickly converting what would have been a mild attack into a severe seizure. Small doses of the barbiturate should be tried in its initial use in any asthmatic patient.

Aspirin, phenacetin, and the salicylates should be prescribed with caution in the asthmatic. Fatalities have been reported from the ingestion of a 5-grain aspirin tablet, death being due presumably to intense broncho-spasm.—*Spain, New York State J. Med.*, Sept. 1, 1942.

THE TREATMENT OF BILIARY LITHIASIS*

By

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As early as the 5th century A. D. medical literature contains reference to "dried up humors, concreted-like stones which appear to have something to do with obstruction of the liver." Such was the snail-like pace of medical progress in ancient times, however, that the removal of gallstones is not recorded until 1618, and of the gallbladder until 1882.[1]

The span of years since this date has seen great advances in the management of biliary lithiasis. It has only been during the memory of most of us here that the inadequacy of cholecystostomy and cholecystolithotomy as a curative operation in cholecystic disease has become generally appreciated. The fact that at least 17 percent of patients subjected to this procedure subsequently require cholecystectomy[2] has brought general recognition of the fact that this is a compromise operation and only to be resorted to when circumstances dictate that cholecystectomy would be unduly hazardous.

A recognition of the potential danger of neglected cholecystic disease can be obtained from a perusal of the literature of the period which preceded the modern surgical era; it is replete with complications and catastrophies of every description almost unheard of in present day practice. These are facts that must have weighed heavily in the opinions of older surgeons who have insisted that immediate cholecystectomy is to be advised once cholecystic disease is diagnosed. They probably were responsible for a rather radical attitude which has undoubtedly resulted in the extirpation of many inoffensive gallbladders, with the resultant production of a healthy skepticism on the part of our medical colleagues regarding the surgical treatment of the diseased gallbladder.

*Read before a meeting of the Northeastern Division of the Association, Ft. Payne, Feb. 9, 1942.

1. Walters and Snell: Diseases of Gallbladder and Bile Ducts, Philadelphia, W. B. Saunders Company, 1942.

2. Abell, I.: Dangers of Cholelithiasis, Kentucky M. J. 39: 24-27 (Jan.) '41.

Just as in the problem of the management of peptic ulcer, however, analytical observation of large numbers of patients by collaborating internists and surgeons has led to agreement on a rational concept of therapeutic management. Now it is pretty generally agreed that the chronic non-calculous gallbladder is best handled conservatively, whereas the gallbladder which contains stones should be removed if the general condition of the patient will permit.

The incidence of gallstones in the adult population has been variously estimated at from 5 to 20 per cent. It is probable that acceptable figures would be 5 to 8 percent of women and 2 to 4 percent of men.[2] All writers agree on the rising incidence with age and a definite disparity in the sex ratio, being two to five times more frequent in females than in males.[2] Although the incidence increases rapidly after the age of fifty years, no age is exempt, not even the newborn.[1] The stones may be single or almost countless; types in individual cases are not necessarily identical; and verified cases have been reported in which they have formed in as short a period as two months. (Concretion of calcium bilirubinate may form in the bile passage of experimental animals in as short a period as three weeks.)[2]

Gallstones may be of four types:

1. The pure cholesterin stone, usually single, whose origin is variously ascribed to metabolic disorder or infection.

2. Mixed or laminated stones, usually multiple and, hence, facetted, having alternate layers of cholesterin and calcium bilirubinate on an organic nucleus.

3. Calcium carbonate stones, rare radiopaque bodies.

4. Pigment calcium (calcium bilirubinate) stones, being small black friable masses in the gallbladder, or putty-like masses in the common duct. This is the only type of gallstone for which there can be any reasonable hope of spontaneous or medically induced dissolution. This hope is rather a forlorn one, however, as a coating of cholesterin is soon deposited on these pigment masses which cannot be dissolved.

A common form of treatment employed in gullible patients has been the administration of olive oil in daily doses and then having the patients search their stools for the stones. They found them too: little particles of soap formed by the action of the duodenal juices on the olive oil. And the patient went his way rejoicing until the next attack of biliary colic. More than fifty years ago Naunyn made the remark that a gallstone can be boiled in olive oil and remain unaffected.[3]

The reason for the success of such quackery lies in the relatively long periods of time over which uncomplicated stones in the gallbladder may remain symptomless. In fact, many such stones are discovered during routine x-ray examinations, or abdominal exploration during pelvic operations, their presence having been unsuspected previously. In the majority of these patients, however, careful questioning will reveal symptoms of cholecystic disease in the past which had been overshadowed by the symptoms of the present complaint. Dr. Will Mayo is credited with the statement that he "knew of nothing so innocent as the innocent gallstone that caused as much distress, unless it was the innocent practitioner who failed to recognize the presence of the innocent gallstone as the cause."[2]

This pretty well expresses the present view regarding the proper management of stones in the gallbladder. So long as the stone is there, one or more, it exists as a definite menace to the health and life of its host. First, it may become impacted in the cystic duct and result in acute cholecystitis; second, it may traverse the cystic duct and lodge in the ampulla of Vater and cause obstructive jaundice, pancreatitis and cholangitis; third, it may erode the wall of the gallbladder and cause abscess formation, or fistulous communication with a neighboring viscus, and, if large enough, intestinal obstruction; fourth, its presence may indicate a chronic inflammatory process which may spread along the periductal lymphatics to involve the common bile and hepatic ducts, which may, thereby themselves become stone formers; and fifth, the constant irritation of its presence may result in the development of cancer of the gallbladder, it being a well recognized fact that this lesion is practically never observed except in association with gallstones.

For the foregoing reasons we cannot agree with the commonly given advice regarding

3. Walton, J.: Formation and Treatment of Calculi in the Biliary Ducts and Gallbladder, Surg., Gynec. & Obst. 64: 257-269, Feb. (No. 2A) '37.

silent gallstones, that they be left alone until they give trouble. The time to attend to a "fifth columnist" is before he gives trouble. Obviously, "a living problem is better than a dead certainty," but I believe that whenever gallstones are discovered in a patient whose general condition does not contraindicate surgery, a cholecystectomy should be carried out.

At the time cholecystectomy is done, the surgeon should satisfy himself thoroughly that there are no stones in the common or hepatic ducts. In the last few years the fact has been brought to our attention that stones will be found in many common ducts that have not been explored previously. Twelve to twenty per cent of all patients with gallstones have stones in the common duct.[4] In a large group of patients in whom Lahey[5,6] found stones in the common duct, there was absence of jaundice or history of jaundice in 39 percent; chills and fever were present in but 4.2 percent, and in 4 percent of cases stones were found in the bile ducts only, the gallbladder containing none.

As a result of Dr. Lahey's observations and recommendations, fewer stones are being missed than formerly. It will be recalled that he urged that the common and hepatic ducts be explored in all jaundiced patients, and in all patients in whom a reasonably recent history of jaundice is present, and in all patients with a markedly thickened or contracted gallbladder, since long standing cholelithiasis and gallbladder infection make conditions so favorable for the production of common duct stones, and is so frequently associated with stones; when the common duct is either thickened or dilated, particularly when the gallbladder has not been previously removed; when any suspicious lumps suggesting stone can be felt between the palpating thumb and finger, particularly when the head of the pancreas is so thickened and indurated that stones could be overlooked; and when the bile withdrawn into a hypodermic syringe is not golden yellow in color and perfectly clear and transparent in character.

In the presence of the above indications, stones were found in the common duct in 50 percent of the cases explored. It is believed, however, that many negative explorations must be made in order to accomplish a high percentage of complete removal of duct stones and a low percentage of return symptoms after the removal of the gallbladder for cholelithiasis or cholecystitis.

It has been my experience and that of others[1,5,6] that a negative exploration of the common and hepatic ducts with probe and scoop and irrigation does not add materially to the risk of the operative procedure. The sphincter of Oddi is gently dilated, preferably with graduated sounds to the size of 8 millimeters, and a T tube is sutured into the opening in the common duct. If stones have been found, this tube should not be removed until a cholangiogram has demonstrated the absence of any remaining stones in the common duct, and that the opaque medium flows freely into the duodenum. If the presence of remaining stones is demonstrated, they can frequently be fragmented by the injection of ether through the tube, and the fragments then washed out, by irrigation and by the administration of a choleretic in association with measures to encourage dilatation of the sphincter of Oddi (olive oil and nitroglycerine by mouth).[7]

If obstructive jaundice exists, operation should be deferred until the prothrombin time of the blood has been brought within normal limits by the oral or intravenous administration of vitamin K. (Transfusion of fresh whole blood is an excellent source of prothrombin in an emergency.) While this is being accomplished the glycogen reserve of the liver can be increased by the oral ingestion of sweetened liquids and candy, and the intravenous administration of glucose. Vitamin D absorption is impaired when bile is excluded from the duodenum, so it should be administered during the postoperative period. Vitamin B is not stored in the body and the deficiency of this factor must be guarded against during the pre-and postoperative periods. It is of definite benefit to return the bile to the patient if external drainage is carried out over an extended period. This may be done through a small

4. Allen, A. W.: Diagnosis and Treatment of Stones in Common Bile Duct, Surg., Gynec. & Obst. 62: 347-357, Feb. (No. 2A) '36.

5. Lahey, F. H.: Common and Hepatic Duct Stones, Am. J. Surg. 40: 209-216 (April) '38.

6. Lahey, F. H., and Swinton, N.: Stones in Common and Hepatic Bile Ducts, N. England J. Med. 213: 1275-1280 (Dec. 26) '35.

7. Best, R. R.: Cholangiographic Demonstration of the Remaining Common Duct Stones and its Nonoperative Management, Surg., Gynec. & Obst. 66: 1040-1046 (June) '38.

stomach tube daily, or in the form of "bile cocktails," taken quickly with a water chaser as was the common practice with bootleg whiskey.

The management of acute cholecystitis has been the subject of much discussion in the surgical literature of the past decade. During this period an almost complete about face of surgical opinion has taken place regarding it. When a stone becomes lodged in the neck of the gallbladder or in the cystic duct, the condition of acute cholecystitis supervenes, with distention of the gallbladder lumen and edematous thickening of its walls. This condition may spontaneously regress or may proceed to hydrops, empyema, gangrene and/or perforation. It is because of these potential complications, and because of the relative ease and safety with which such gallbladders can be removed, that I believe cholecystectomy to be the treatment of choice for any patient with acute cholecystitis whose general condition is not such as to make surgery inadvisable. On the question of common duct exploration in these patients opinion is divided between the extreme view that it should always be done and that it should never be done. In my judgment the same factors should influence one's decision on this question as are applied to the question of common duct exploration in general, as discussed above.

Spinal pontocaine seems to be the anesthetic of choice for operations on the biliary tract because of the excellent relaxation which it provides. I have found the technique (using 10 percent glucose as a solvent for the pontocaine) as described by Sise[8] to be highly reliable. Where excessive elevation of the blood pressure or arteriosclerosis contraindicates a high spinal anesthetic, I prefer intercostal block with novocaine, supplemented by intravenous pentothal sodium.

In conclusion, reasons have been advanced for my belief that:

1. Immediate cholecystectomy is the treatment of choice for acute cholecystitis.

2. Cholecystectomy is preferred for all cases of cholelithasis.

3. Exploration of the common and hepatic ducts is mandatory where any of the following conditions exist:

A. Jaundice, present or past.

B. Thickened or dilated common bile duct.

C. Markedly thickened or contracted gallbladder.

D. Thickening and induration of the head of the pancreas.

E. Palpable lumps suggesting common duct stone.

F. Aspiration of abnormal looking bile from the common duct.

4. If stones are found in the common duct, its drainage tube should not be removed until cholangiography has demonstrated a clear passage into the duodenum.

8. Sise, L. F.: Pontocaine-Glucose Solution for Spinal Anesthesia, Surg. Clin. N. Amer. 15: 1501-1511 (Dec.) '35: 16; 1707-1711 (Dec.) '36.

EXANTHEMA SUBITUM

A REVIEW OF THE RECENT LITERATURE, AND REPORT OF A CASE

By

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Exanthema subitum is a disease which is neither rare nor serious. Its course is not augmented by untoward complications, and a fatal case has never been reported. It is a disease which is seen most frequently by the general practitioner, and very often not recognized only because it is not borne in mind while contemplating a differential diagnosis. It is for the purpose of again bringing this subject to mind that this paper is presented, and this case reported.

Clinically, the disease presents the following picture: The patient is usually a child about 2 years old. There is no predilection for color or sex, as distribution in these respects is about equal. Most of the cases occur between the ages of 6 months and 2½ years, but some have been reported up to 14 years of age, and Morgan Cutts[1] recently called attention to a case in an adult female of 33 years. The onset of the disease is abrupt. High fever and irritability are the presenting symptoms. Fever as high as 105° cannot be considered unusual; however, except for the accompanying irritability, there are few if any concomitants. The child does not seem toxic, and certainly is not prostrated in proportion to the degree of fever noted. There may be some headache, and transient pains in the legs and/or back.

1. Cutts, Morgan: Exanthem Subitum; Report of a Case, Ann. Int. Med. 1938, 40, 1752.

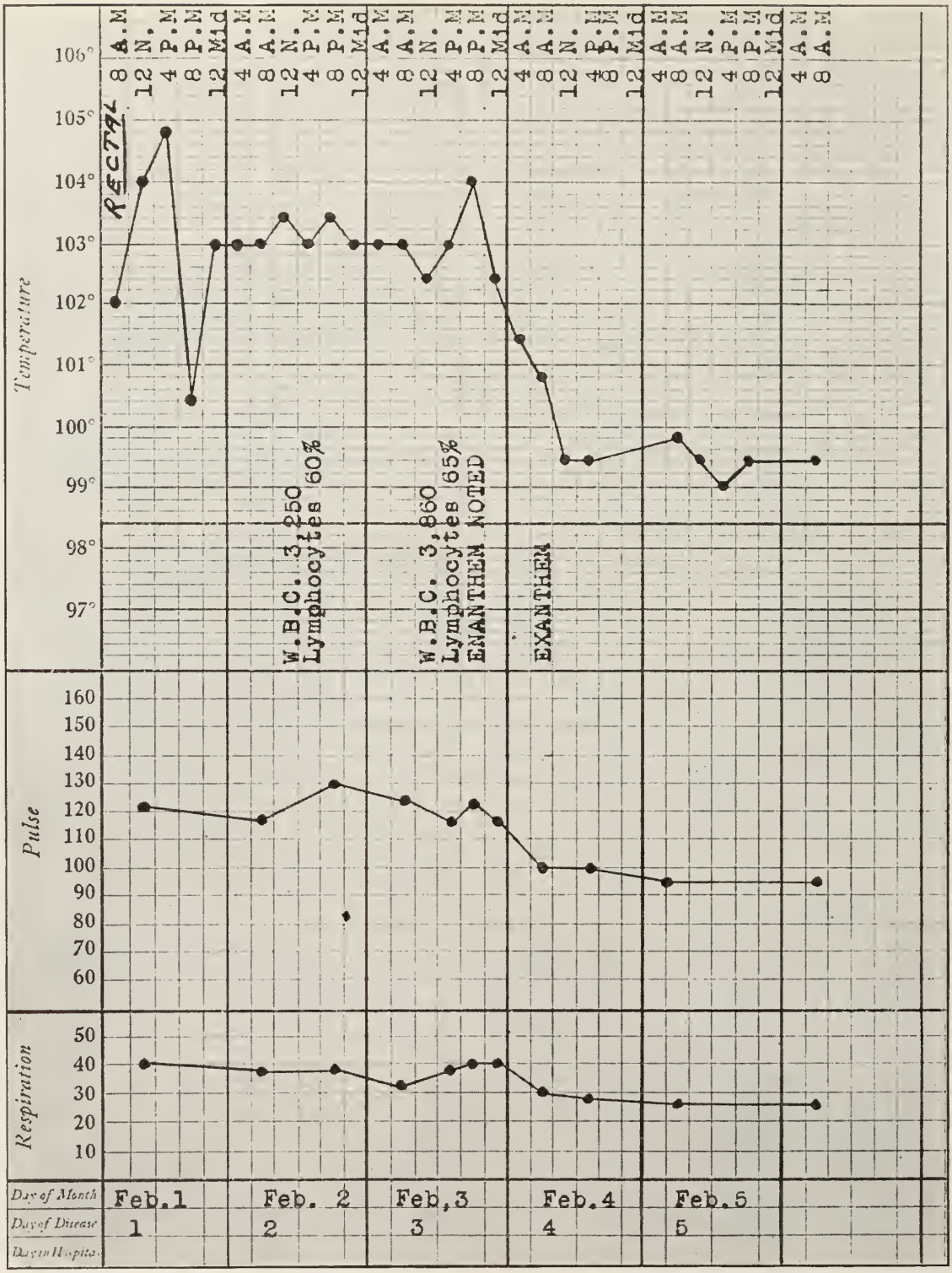


Figure 1

These last factors are not constant, and other than for these, symptoms are strikingly significant by their absence. Similarly, the physical examination is diagnostically important because of negative findings. As a rule no deviation from the normal is elicited and the presence of abnormalities in the throat, heart or lungs, splenic enlargement,

Koplick spots, coryza, or other lesions would probably bespeak evidence for another disease. The laboratory findings are important; for an examination of the blood reveals a leukopenia and a lymphocytosis. There are usually 3,000 to 4,000 cells, and up to 80% lymphocytes. In an epidemic of this disease reported by Barenberg and Greenspan,[2] 80% of their patients showed a leukopenia, and 100% of the patients had a lymphocytosis. Other laboratory measures are not of diagnostic importance. The typical course of the disease is well exemplified in the case reported here. (See Fig. 1.) The fever is maintained for 4 to 5 days at which time there is a critical drop; and after the temperature has reached normal, a rash appears. The case report that follows shows a well marked precritical rise in fever, and an enanthem about 12 hours prior to the appearance of the exanthem. Neither of these factors is mentioned in the literature. The rash itself is rubelliform in type with discreet macules on the trunk, extremities and face; and a tendency to confluency on the neck. Concerning the order in which the rash appears, there seems to be some difference in opinion. Stafford[3] describes the rash as first appearing on the trunk and then in a few hours spreading to the extremities and face. Rudolph[4] describes it as first appearing on the face and then spreading to other parts of the body. In the case I am reporting the latter course was followed; however, it is quite possible that there are variations in individual cases. The rash persists for 24 to 72 hours, then fades rapidly and an uneventful recovery without complication is the rule. Treatment is entirely symptomatic. This condition was first described by Zahorsky in 1910 and called roseola infantum. The name exanthema subitum was employed by Veeder and Hempelmann in 1921 and has been used since.

REPORT OF CASE

The patient (M. J. A., Jr.) is a white male child of 17 months. The family history is irrelevant; the past history, not remarkable. In spite of his tender age, but because of association with an older sister who is in the first year at public school, he had been exposed to and contracted measles, rubella and varicella. Except for these infections, his health has been splendid and he was extremely active and robust. On February 1st he was suddenly taken ill. He was irritable and fretful and his temperature was found to be 102°. This rose rapidly to 105°, and then sought a level of 103°-104° where it remained for three days. Nothing of note could be found by physical examination, and though he was irritable, he appeared neither toxic nor prostrated to any appreciable degree. The urine was negative. The W. B. C. on February 2nd was 3,250, with 60% lymphocytes; and on February 3rd, 3,860 with 65% lymphocytes. At 8 P. M. on February 3rd an enanthem was noted, and between this hour and 8 A. M. on February 4th the temperature dropped from 104° to 99.4°. On the morning of February 4th, after the temperature had reached normal, a well marked rash appeared first on the face and then spread rapidly over the trunk, back and extremities. The rash was macular in type and resembled closely that seen in measles. On the neck it was confluent. During this time the patient's irritability disappeared and except for the presence of the rash he appeared normal. The rash persisted for 48 hours and then disappeared rapidly. No pigmented areas were left in its wake, and there was no itching or desquamation. There were no complications.

SUMMARY

In cases in which a child is suddenly taken ill with a high fever which is well maintained, and in which there is an absence of equivalent symptoms and an essentially negative physical examination, associated with a leukopenia and lymphocytosis, exanthema subitum should be borne in mind in contemplating a differential diagnosis. One of the most trying phases of this condition is the long febrile period which, as a rule, keeps both the physician and the family uneasy. The rash does not appear till the fever has dropped to normal.

2. Barenberg, L. H., and Greenspan, L.: Exanthema Subitum, Am. J. Dis. Child. 1939, 58, 983.

3. Stafford, G. E.: Exanthem Subitum: Report of Two Cases, Arch. Pediat. 1939, 56, 246.

4. Rudolph, C. C.: Exanthem Subitum, J. Florida M. A. 1941, 27, 547.

5. Fischhof, Paul: Contribution to the Disease Picture of Exanthem Subitum, Med. Klin. 1936, 32, 807.

6. Rosenbusch, H.: The Question of Exanthema Subitum, Schweiz. Med. Wchnschr. 1939, 69, 1173.

7. Greenthal, Roy M.: Roseola Infantum, Wisconsin M. J. 1941, 40, 25.

8. Jones Basil B.: Exanthem Subitum, Virginia M. Monthly, 1939, 66, 401.

9. Zahorsky, J.: Pediatrics, 1910, 22, 60.

10. Ibid: Roseola Infantum, J. A. M. A. 1913, 61, 1446.

11. Veeder, B. S., and Hempelmann, T. C.: A Febrile Exanthem Occurring in Childhood, J. A. M. A. 1921, 77, 1787.

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DIABETIC COMA

Joslin, Root, White and Marble[1] believe that there is a "growing realization that diabetic coma is an acute deficiency state, a condition in which the primary disturbance is a lack of insulin. In treatment, this fact should be the feature kept most prominently in mind by the physician. Everything else is secondary to the energetic supplying of really adequate amounts of insulin, regardless of how many units this may mean. We regard as regrettable the tendency of some clinicians in their talks and writings to wander away from this fundamental idea for the successful treatment of diabetic acidosis. Without large amounts of insulin given early, maximal success can never be obtained despite the carrying out of other secondary measures, chiefly the supplying of fluid and electrolytes abundantly, however physiologically sound they may be in their own right."

The Boston clinicians tell us that "in our experience the commonest cause of diabetic coma continues to be laxity in treatment, consisting either of dietary indiscretions or neglect to take an adequate amount of insulin or both." And that the "second commonest precipitating factor was infection. . ."

1. Joslin, Elliott P.; Root, Howard F.; White, Priscilla, and Marble, Alexander: Diabetic Coma, J. A. M. A. 119: 1160 (Aug. 8) 1942.

We are also informed that "as has been emphasized repeatedly in the past, there is no single factor which can be correlated with death from diabetic coma, but usually a combination of various factors. The age of the patient, the depth of acidosis, the duration of unconsciousness and the level of the blood sugar, of the plasma carbon dioxide and of the blood nonprotein nitrogen all play important roles. However, patients over 70 years of age, patients profoundly unconscious, patients in extreme shock with no blood pressure reading obtainable on admission, patients with blood sugar values over 1,500 mg. per hundred cubic centimeters or with carbon dioxide values below 5 volumes per cent and patients with non-protein nitrogen levels above 100 mg. per hundred cubic centimeters all have recovered with prompt and energetic treatment."

The authors hold that "the treatment of diabetic coma properly belongs in a hospital. Every effort should be made to transfer the patient at once to a hospital, since the emergency is just as great as when a patient requires immediate surgical therapy. The hospital should be one in which laboratory service can be given at any time day or night, including holidays and Sundays. All preparations for treatment should be based on the fact that diabetic coma is an acute medical emergency in which early, prompt, vigorous treatment is absolutely essential if good results are to be secured." The patient is kept well warmed and specimens of blood and urine are sent immediately to the technician. The authors believe in the "fearless use of large doses of insulin" and give from 20 to 100 units for the first dose, the average being 50 units. And they believe also that "the early, continuous and adequate giving of isotonic solution of sodium chloride intravenously, subcutaneously or both is second in importance only to the giving of adequate amounts of insulin. The administration of 1,000 to 1,500 cc. should be begun within the first few minutes after admission to the hospital, and, depending on the degree of dehydration and general condition of the patient, this may be repeated one or more times within the first six hours of treatment."

The Boston clinicians assert that "it should be a rule rarely broken that shortly after admission the stomach is gently drained and then lavaged with warm water.

Usually one will find the stomach distended with a large amount of fluid containing food remains and colored black because of bleeding from the gastric mucosa. Lavage relieves the distention, which may in itself prove so embarrassing as to be fatal, even if not fatal by regurgitation and aspiration into the lungs, and, furthermore, prepares the way for the administration of fluid and food by mouth a few hours later."

And we read that "contrary to the custom of some clinicians, we regard it as unnecessary and inadvisable to add dextrose to the fluid given subcutaneously and intravenously during the first few hours of treatment." And Joslin and his co-workers continue to oppose the use of alkalis, saying in part that "it is our rule never to give alkalis in the treatment of diabetic coma. Our favorable mortality without their use seems ample proof that the use of alkalis is unnecessary. Furthermore, there is much to indicate that their administration may actually be harmful. . ." In some cases one or more transfusions of plasma or whole blood is advocated, while little or no value is attached to the use of caffeine, epinephrine, ephedrine and other respiratory and circulatory stimulants.

And finally we are informed that "in a series of 525 cases of coma observed from May 1923 to Jan. 1, 1942 there were 58 deaths, a case mortality of 11 per cent."

For a long time now Joslin and his group have been preeminent in the difficult art and science of dealing with the diabetic and it is indeed fortunate that their good work continues. Their recent contribution to the literature on diabetic coma is excellent throughout and it will doubtless be read by many practitioners who will follow, or attempt to follow, its sound advice. Not every hospital or clinic can meet Joslin's high specifications but all can emulate his methods of treatment and can endeavor to approach his amazingly low mortality.

"B" Vitamins in Dermatology—Flushing and erythema of the skin has been observed to follow administration of nicotinic acid due to increased peripheral circulation and capillary dilatation. Although it has been advocated that this vitamin be used for this purpose in the treatment of various dermatological conditions, warning should be given to avoid giving nicotinic acid either alone or in vitamin B complex to patients with "rosacea tendency." Nicotinamide does not produce this reaction.—*Wright, J. Michigan M. Soc.*, Sept. 1942.

War Medicine

POLICIES GOVERNING INITIAL APPOINTMENT OF MEDICAL OFFICERS

The Surgeon General of the Army published detailed information concerning policies governing the initial appointment of physicians as medical officers on April 23, 1942. Necessary changes are given wide publicity, at his request, in order that the individual applicants, and all concerned in the procurement of medical officers, may know the status of such appointments.

The current military program provides for a definite number of position vacancies in the different grades. The number of such positions must necessarily determine the promotion of officers already on duty and, in addition, the appointment of new officers from civilian life. Such appointments are limited to qualified physicians required to fill the position vacancies for which no equally well qualified medical officers are available. Such positions calling for an increase in grade should be filled by promotion of those already in the service, insofar as possible, and not by new appointments.

If this policy is not followed, it would definitely penalize a large number of well qualified Lieutenants and Captains already on duty by blocking their promotions which have been earned by hard work. In view of these facts, it has been deemed necessary to raise the standards of training and experience for appointment in grades above that of First Lieutenant.

With this in view, the Surgeon General has announced the following policy which will govern action to be taken on all applications after September 15, 1942:

All appointments will be recommended in the grade of First Lieutenant with the following exceptions:

Captain. 1. Eligible applicants between the ages of 37 and 45 will be considered for appointment in the grade of Captain by reason of their age and general unclassified medical training and experience.

2. Below the age of 37 and *above* the age of 32, *consideration* for appointment in the grade of Captain will be given to applicants who meet all of the following minimum requirements:

a. Graduation from an approved medical school.

b. Internship of not less than one year, preferably of the rotating type.

c. Special training consisting of 3 years' residency in a recognized specialty.

d. An additional period of not less than 2 years of study and/or practice limited to the specialty.

3. Eligible applicants who previously held commissions in the grade of Captain in the Medical Corps (Regular Army, National Guard of the United States, or Officers Reserve Corps) *may be considered* for appointment in that grade provided they have not passed the age of 45 years.

Major. 1. Eligible applicants between the ages of 37 and 55 *may be considered* for appointment under the following conditions:

a. Graduation from an approved school.

b. Internship of not less than one year, preferably of the rotating type.

c. Special training consisting of 3 years' residency in a recognized specialty.

d. An additional period of not less than 7 years of study and/or practice limited to the specialty.

e. The existence of appropriate position vacancies.

f. Additional training of a special nature of value to the military service, in lieu of the above.

2. Applicants previously commissioned as Majors in the Medical Corps (Regular Army, National Guard of the United States, or Officers Reserve Corps) whose training and experience qualify them for appropriate assignments may be *considered* for appointment in the grade of Major provided they have not passed the age of 55.

Lieutenant Colonel and Colonel. In view of the small number of assignment vacancies for individuals of such grade, and the large number of Reserve Officers of these grades who are being called to duty, such appointments will be limited. Wherever possible, promotion of qualified officers on duty will be utilized to fill the position vacancies.

Much misunderstanding has arisen concerning recognition by Specialty Boards and membership in specialty groups. It will be noted that mention is not made of these in the preceding paragraphs. This is due to the variation in requirements of the different Boards and organizations. Membership and recognition are definite factors in determining the professional background of the individual, but are *not* the deciding factors, as so many physicians have been led to believe.

The action of the Grading Board, established by The Surgeon General in his office, is final in tendering initial appointments. Proper consideration must be given such factors as age, position vacancies, the functions of command, and original assignments. All questionable initial grades are decided by this Board. Due to the lack of time, no reconsideration can be given.

There are in the age group 24-45 more than a sufficient number of eligible, qualified physicians to meet the Medical Department requirements. It is upon this age group that the Congress has imposed a definite obligation of military service through the medium of the Selective Service Act. The physicians in this group are ones needed *now* for active duty. The requirements are immediate and imperative. Applicants beyond 45 years may be considered for appointment only if they possess special qualifications for assignment to positions appropriate to the grade of Major or above.

Bacterial Allergy: Otolaryngological Aspects—There is only one method of treatment of bacterial allergy and that is to remove the infection. It is also usually desirable that a vaccine be prepared from the cultures obtained at the time of removal of the infection. As mentioned previously, infected cysts of the maxillary sinus are frequently the cause of urticaria. A puncture of the cyst with a trocar with release of the fluid may alleviate symptoms temporarily and does provide a method of collecting material for the vaccine, but it does not prevent refilling of the cyst with recurrent symptoms. Complete surgical removal of the cyst is imperative. The extraction of abscessed teeth and the removal of infected tonsils and adenoids may be necessary. It is further desirable in some cases where improper ventilation is found intranasally to straighten the nasal septum to prevent the harboring of organisms in the nose, especially the anaerobic organisms. One may reasonably consider this a radical procedure, but after all, it is the simplest method of eradicating germs which thrive in the upper respiratory tract. Roentgen ray therapy on the lymphoid tissue of the pharynx and nasopharynx may be indicated. About 1,000 roentgen units are used, divided into 200-unit doses at weekly or ten-day intervals. A unit dispensing at least 200 kilo-volts produce the best results. Large follicles of lymphoid tissue should be removed surgically or by electro-coagulation previous to the roentgen ray therapy.—*Eagle, South. M. J., Oct.* 1942.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

JUNE 1942

Examinations for diphtheria bacilli and Vincent's	821
Agglutination tests (typhoid, Brill's, undulant fever)	1,048
Typhoid cultures (blood, feces and urine)	992
Examinations for malaria	2,294
Examinations for intestinal parasites	2,869
Serologic tests for syphilis (blood and spinal fluid)	53,890
Darkfield examinations	52
Examinations for gonococci	2,687
Examinations for tubercle bacilli	1,962
Examinations for Negri bodies (microscopic)	75
Water examinations (bacteriologic)	1,008
Milk examinations	2,159
Pneumococcus typing	0
Miscellaneous	498
Total	70,355

* * *

JULY 1942

Examinations for diphtheria bacilli and Vincent's	760
Agglutination tests (typhoid, Brill's, undulant fever)	1,267
Typhoid cultures (blood, feces and urine)	1,414
Examinations for malaria	2,644
Examinations for intestinal parasites	2,782
Serologic tests for syphilis (blood and spinal fluid)	49,918
Darkfield examinations	78
Examinations for gonococci	2,626
Examinations for tubercle bacilli	1,747
Examinations for Negri bodies (microscopic)	71
Water examinations (bacteriologic)	1,137
Milk examinations	2,211
Pneumococcus typing	22
Miscellaneous	479
Total	67,156

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

HOME FRONT RESPONSIBILITY

With a global war well upon us, the military authorities have consummated plans to make the ever-increasing United States armed forces the healthiest ever. The rapid and enormous draft on our medical men is mute evidence of their sincerity toward accomplishing this goal. The task is many-fold greater than has ever confronted a nation heretofore, both because of the standards set and the vast spaces involved, for our men are now located in and exposed to the rigors of every conceivable climate:

> "From Greenland's icy mountains
> From India's coral strand
> Where Afric's sunny fountains
> Roll down their golden sand."

The Army, Navy and Marines are making sure that no active cases of tuberculosis are inducted into the armed forces. They are not depending on the stethoscope, they are not depending on case histories, nor on tuberculin testing, but they are relying on the most scientific, accurate device yet conceived—the x-ray.

Here is where the "Home Front" comes in for a vast responsibility. The apathetic interest in the control of tuberculosis among the civilian population is a discredit upon the public. Since tuberculosis is a communicable disease, the men in uniform cannot give the disease to the civil population. Any tuberculosis that results must have its source in that same civil population.

To those many, very sincere people chafing at the bit to aid our boys at the front by actions of valor and deprivation at home let them re-evaluate their efforts and place them in their proper proportion and position in the "Spectrum of Human Efforts." A varying length of spectral bands would be given to the saving of fat, the collecting of tin cans, the rubber effort and scrap-iron accumulation; a rather longer band might be assigned to the Red Cross contributions. The eradication of tuberculosis should deserve a band at the long-wave length of this "Spectrum of Human Effort."

The heavy toll taken by tuberculosis, socially and economically, through the centuries can be reduced to a minor or nearly insignificant public health problem in one generation and finally eliminated altogether by merely putting into practice the knowledge we already have of its epidemiology and treatment. There is no need to wait for biochemists to produce a specific that will inhibit or cure the disease; enough is already known about this disease to proceed toward its banishment.

Had the War Department's selection of sites for military posts and fields been in-

fluenced by the local effort of a community to have cleaned up its tuberculosis problem, there would have been many a present boom-town by-passed and by the same token many fewer soldiers would be exposed to tuberculosis while serving in the Armed Services.

Alabama has facilities for treating 480 patients for pulmonary tuberculosis in its eight state subsidized county sanatoria at one time. In August 83 patients were admitted, 79 were discharged and there were 12,595 patient days recorded. During this same period 1,834 pneumothorax refills were given and 25 major operations were performed.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

MATERNAL AND INFANT HEALTH

Prophesy is a dangerous business in this time of war and unexpected change in every quarter of the globe. Those who dare predict what will happen on a certain date or within a certain time in Russia, in Egypt, in the southwest Pacific, in China or in western Europe are likely to find themselves in an embarrassing position. But, regardless of the unpredictable changes constantly taking place on the great world stage, one prediction can be made with every prospect of its being fulfilled. That is that more than 60,000 Alabama homes will be brightened during the next twelve months by the birth of more than 60,000 babies. Some of those homes will be homes of wealth, and the babies born into them will be surrounded by the luxuries that only wealth can bring. Others will be at the other end of the economic scale, and the babies born therein will face a grim lifelong struggle for a livelihood and a chance to get ahead. Still other Alabama homes that will echo the cries and respond to the smiles of these youngest of Alabamians will be neither rich nor poor but will belong to what we know as the great middle class, the backbone of democratic society.

If the birth records of the past may be taken as a guide to the future, the parents of those 60,000 or more babies to be born in this State between now and next year at this time will differ even more widely than the economic and social conditions into which those babies will be born. Some undoubtedly will have mothers and fathers too young to assume properly the heavy responsibilities of parenthood. A few of the fathers for instance will probably be less than 16 years of age. Several will be only 16, while 2,500 or more will probably not be old enough to vote. In 1940 three girls in this State became mothers at the age of 11, seven at the age of 12, 27 at the age of 13, 164 at the age of 14 and 16,405 before they were old enough to vote. On the other hand, eight women in this State became mothers after passing their 50th birthdays and 151 Alabama men became fathers after reaching the age of 65. There is every reason to believe that the next twelve months will see a virtual repetition, with only slight change, in the 1940 picture in this respect.

Unfortunately, all the prospective Alabama parents looking forward through those months of waiting to the birth of their babies will never see them alive, for it is almost certain that about 2,500 of all the births that occur will be stillbirths. More than 38 babies out of every 1.000 born in this State in 1940 were dead at birth. During the same year more than 3,850 Alabama babies who were alive at birth died before reaching their first birthday. That was about 61 out of every 1,000. More than 17 out of every 1,000 Alabama babies born alive that year lived less than 24 hours after birth; nearly 38 out of every 1,000 lived less than one month.

Unfortunately, the death of 3,800 or more infants and the loss of another 2,500 or more lives by stillbirth during a single year do not complete the story of death resulting from, or following shortly after, the bringing of new life into being. We have said nothing about the mothers who give their own lives as a sacrifice, often an unnecessary sacrifice, to conditions associated with childbirth. There were 386 of them in this State in 1940. There is every reason to assume that there will be approximately as many during the next year. Every 10,000 births (both live births and stillbirths) brought death to an average of nearly 59 Alabama mothers.

Experts in the field of maternal hygiene tell us that at least two-thirds of the deaths due to conditions associated with childbirth could be prevented by proper care of mothers before, during and immediately

after the birth of their babies. We know that premature birth, by far the leading cause of death among Alabama infants, could be greatly reduced if such care were available to all mothers. We know that injury at birth, which ranked in fourth place as a cause of infant deaths in Alabama in 1940, would also be considerably reduced if this care were the common privilege of all mothers and prospective mothers.

Although budgetary limitations prevent the State and county health departments from doing as much as they would like to do to reduce the hazards of childbirth and the even greater hazards of the first year of life, these agencies are doing much more in this respect than many people realize. As additional funds become available, it is hoped that the facilities now available will be expanded and made to reach more and more of the people who need them.

The public health maternity clinics are essentially for the indigent and medically indigent of course. Those able to afford the services of private physicians and specialists in this field should by all means visit them instead of the clinics.

Upon her first visit to a clinic or private physician, which should be made as soon as she has reason to think she is to become a mother, a woman should be prepared to give considerable information about herself. She should run over in her mind, for instance, her medical history covering a great many years—what diseases she has had, what types of operation she has undergone, if any, and the details of earlier pregnancies. She naturally will be expected to give especially detailed information regarding illnesses and operations that might influence the outcome of the present pregnancy.

That question-and-answer period finished, she may expect to undergo one of the most thorough and complete physical examinations she has ever had. This will include an external abdominal and internal pelvic examination, with measurements of the pelvis, or bony framework, and a careful check-up of the tonsils, throat, thyroid, lungs, heart, digestive organs and kidneys. Her blood pressure will be taken; and she will be weighed, and her blood will be tested for the possible presence of syphilis.

The purpose of this careful examination is obvious. While pregnancy and childbirth are entirely normal processes, and a healthy woman should have nothing to fear from them, they do place a great strain upon the human mechanism, especially the organs of reproduction, and any marked impairment might bring results that would prove serious. If anything is found to be wrong, treatment can be instituted at once, with an excellent chance of its being corrected before the maximum strain is reached at childbirth. It need hardly be emphasized that uncorrected defects are largely responsible for the heavy loss of life among mothers and young children to which your attention has already been called.

Another important purpose of that initial visit to the doctor or clinic is to enable the prospective mother to receive advice regarding her own activities during the months that will pass before the birth of her baby. This advice will be determined of course by her physical condition. If she is found to be o. k. in this respect, she will be instructed regarding the changes which pregnancy normally brings and told how to deal with them. If minor illnesses are revealed, simple treatment measures will be recommended. If the prospective mother is found to be suffering from a major disease which would be likely to affect adversely the chances of her experiencing a normal and safe childbirth, proper measures will be prescribed.

Two bits of advice are almost certain to be given, regardless of what the stethoscope, the laboratory analysis and the other diagnostic instruments reveal. The prospective mother will be urged to visit a dentist or dental clinic and to keep herself under medical supervision during and beyond the period of pregnancy.

The recommended visit to the dentist is to complete the general physical examination begun in the doctor's office or clinic. The fields of general medicine and dentistry are separate, and the average general practitioner or expert in maternal hygiene is no more qualified to give a patient advice than a dentist is to advise a victim of malaria or pellagra as to the proper treatment of this condition. Yet the condition of the prospective mother's teeth is likely to play an important part in her general health and thus greatly influence her ability to go through this period of strain without ill effects to herself or her child or both.

Even more important is the medical supervision of a prospective mother until after her baby is born. A woman who seems in perfect health when first examined may quickly develop unfavorable conditions under the strain of pregnancy, and it is of the utmost importance that such changes be detected and corrected as quickly as possible. Maternal hygiene authorities recommend a visit to a clinic or private physician at least once a month during the first six months of pregnancy, at least once every two weeks during the next two months, and once a week during the final month. If she has reason to become worried about her condition, she should not wait for the next visit according to this schedule of course but should obtain medical advice at once.

Although the hazards of childbirth are still higher than they should be in Alabama, as they are elsewhere, there is encouragement in the knowledge that they are less than they were even a few years ago. During the year that saw our country enter the first World War nearly 93 Alabama girls and women out of every 10,000 who went through the great experience of bringing new life into being paid for that glorious privilege with their own lives. The ratio is much smaller now. In 1940 it was slightly less than 59 per 10,000. During the same period infant mortality dropped more than 28 per cent. It is hoped that, as time goes on, these hazards will be reduced even more. Meanwhile, it is the duty of every prospective mother to see that they are reduced to the absolute minimum, as far as she is concerned, by being certain that she receives the best possible care before, during, and after the birth of her child.

Present Status of Research in Cancer—Quite recently we have found that a cancer of the liver transplanted under the skin will cause a profound reduction in the activity of the enzyme catalase in the supposedly normal liver of the animal. This proves that the growth of the cancer strikingly modifies the biochemistry of a tissue far removed from the cancer. In other words, the effects of the cancer are not confined to local effects, but evidently there are also definite manifestations involving the body as a whole. In these respects cancer research is entering rapidly into a stage similar to that which nutritional diseases occupied some 35 years ago, just before the discovery of the vitamins and enzymes which are so important for normal nutrition and for the prevention of nutritional diseases.—*Voegtlin, Am. J. Pub. Health, Sept.* 1942.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

RAT SUPPRESSION

IMPORTANCE AS A WAR MEASURE IN THE CONSERVATION OF HEALTH, FOOD AND MATERIALS

The control of rats, as a menace to public health and because of its economic significance, has been a part of the public health program over a period of years. In the present national emergency special emphasis should be placed on this particular program because of the danger of this rodent as a health hazard and the urgent necessity for the conservation of food supplies and materials.

The rat belongs to the order of mammals and three species are prevalent in Alabama. These three are:

Rattus Norvegicus, which appeared in North America about 1775; color, dirty brown; average weight, 11 to 18 ounces. Some captured have weighed as much as 30 ounces. They have small round heads and their tails are approximately the same length as their bodies. Weight of females is about 20% less than males. The habitat of this species is usually located near water and damp places. They can swim and dive well. They infest garbage dumps, stables, sewage canals, outside toilets, food handling establishments, granaries, cafes, etc., when these are not rat proof. The preferred diet of this species is meat. This is often obtained by killing chickens and even young pigs. Vegetables, nuts and grain are also a part of their diet.

Rattus Rattus Alexandrinus has been known in both North and South America since 1544. These rats are about one-half the size and weight of Rattus Norvegicus. Color, grey; shape of skull longer than Norvegicus; tails two to three inches longer than their bodies. They prefer dry living quarters and can usually be found nesting in attics, between overhead ceilings and in upper stories. They are rarely found living in basements. Their preferred diet consists of grain, fruits, bread and nuts, but they also eat fish and meats.

Rattus Rattus Rattus. Anatomically, the Rattus Rattus Rattus and Rattus Rattus Alexandrinus are identical. Their habits and diet are essentially the same, the only noticeable difference being in the color of their fur. The Rattus Rattus Rattus is black

with a dark grey belly. Some zoologists class these two as of the same species.

According to history, rats have caused more deaths than all wars combined. They transmit diseases to human beings in three ways: first, by infected ectoparasites; second, by contamination of food products with disease-infected urine and feces; third, mechanically by contamination of food products with their filthy feet, fur and tails.

Chief among the diseases transmitted by rats are:

Bubonic plague, dreaded disease throughout the ages, is a disease of rats and spread to man through their fleas. More than 7,000,000 deaths from this disease occurred in India during the years between 1896 and 1911. Since 1899 outbreaks have occurred in Brazil, Hawaii, California, Louisiana and Texas. The disease is prevalent at this time in the western part of the United States among certain squirrels.

Endemic typhus fever (*Brill's*) is also spread from rats to man through infected fleas. It was first observed in Alabama about 1922, being reported from the southern part of the state. Since that time cases have been reported in a majority of the counties, and the disease is endemic at the present time in certain parts of the state.

In 1933 the Bureau of Preventable Diseases recorded a total of 823 cases, and 35 deaths were attributed to it. A total of 1,581 cases and 68 deaths have been reported in the last five years.

Weil's disease, an infectious jaundice, is spread to man by rats infected with the disease, usually by contamination. A number of cases of this rat-borne disease occurred in Jefferson County during 1940 and five deaths were recorded as from this cause.

Trichinosis, according to U. S. Public Health Service reports, is prevalent in the United States and it is estimated that at least 13% of the entire population is infected with the causative agent, the Trichina spiralis. The fatality rate in diagnosed cases is about 10%. Trichinosis is usually acquired by swine from rats, and persons contract the disease by eating infected pork not sufficiently cooked.

Numerous other diseases are known to be transmitted to man and domestic animals through rats. Among these are malleus, a disease of horses which is 100% fatal to man, B. abortus, tularemia, favus, tuberculosis, erysipelas, infectious diarrhea, foot and mouth disease and others.

At this time when manpower for the army and war industries is essential and food supplies are limited, the control of this disease-carrying, property-destroying pest is of first importance.

To control rat-borne diseases, a reduction in the rat population must be obtained and this reduction maintained. This can be accomplished only by the cooperation of public health officials, appropriating bodies, and the public.

Cases of suspected rat-borne diseases should be reported immediately by the physician, investigations by health officials to determine infected foci and appropriate control methods immediately applied. The appropriating bodies should furnish adequate funds for the operation of the program and the public should cooperate in every phase of the project. In this manner early elimination of infected reservoirs can be obtained and the spread of the disease retarded.

Not so vital from a personal or community standpoint but an important factor that must be considered in the present emergency is the enormous amount of food stuff consumed by these pests. Added to this loss from consumption is the contamination and destruction of property. There is no way to obtain an accurate cost of either their feed bill or loss by damaging property. We do know that a grown rat's stomach will hold an average of 33 grams of grain and if only filled once each day, the yearly consumption of one rat would be 26 pounds at least. Efforts to eradicate him assume an important part in health protection and conservation of property; therefore, rat control is an important factor in national defense.

A. J. P.

BUREAU OF VITAL STATISTICS

Leonard V. Phelps, S. B. in P. H., Director

PROCEDURE IN REGISTERING CERTIFIED COPIES OF BIRTH CERTIFICATES

Contributed by
Ethel Hawley

In view of the fact that doctors are often called upon to assist people in obtaining certified copies of birth certificates already on record, or of recording those not filed at the time of birth, an explanation of office

procedure in such cases may be of help in expediting service.

In requesting information regarding a birth certificate, the person inquiring should give the full name of the child, date of birth, place of birth, and the full name of the father and the maiden name of the mother.

All this information is necessary to properly identify the certificate when found, as the indices are arranged by years; and for the earlier years, by county. Also the names of the father and mother are necessary as in many instances the child was not named at the time the certificate was filed, and for the later years the indices are by name of parent and not by name of child.

If a certified copy is desired, a fee of fifty cents should accompany the first request. Urge people not to send coin. The person making the request should send either a money order or stamps, preferably a money order as he will then have a record as to the amount and date it was sent in. Loose coins are easily lost from the envelope in the mails.

If it is necessary for one to write concerning previous correspondence, the fact that there had been previous correspondence should be stated in the letter. It should state the name of the person for whom the certificate was requested, the date of birth, the date of the first request and whether or not a delayed certificate was filed. All correspondence is filed under the name as it appears on the birth certificate. If Mrs. John Jones writes in to find out why she has not received her birth certificate, it would be impossible to give her the desired information until her maiden name had been ascertained under which her certificate would be filed.

In filing delayed certificates, the instructions should be carefully followed and the required amount of evidence submitted at the time the certificate is sent in to obviate the necessity of further delay. Certificates should be neatly made out since they are permanent records and no erasures should appear on them.

The person requesting a certificate should state clearly the place to which he wishes it sent, otherwise there may be some delay in his receiving it. Requests are being answered as quickly as possible. The Bureau is still getting on an average of 800 letters a day, many of which contain requests for more than one certificate. This does not include about 100 persons a day who come in person to this office to get their certificates. Quite frequently the information given by the person requesting the certificate does not tally exactly with that on the certificate as filed. Considerable time is consumed in finding the original record in such cases or in making sure that it is not on file.

If the above facts are kept in mind, the physicians of the state can be of great service to those coming to them for advice in such matters.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	July	August	Estimated Expectancy August
Typhoid	28	32	69
Typhus	35	57	70
Malaria	595	802	1047
Smallpox	0	0	1
Measles	53	27	33
Scarlet fever	29	70	45
Whooping cough	152	104	99
Diphtheria	19	35	70
Influenza	25	72	33
Mumps	18	27	24
Poliomyelitis	11	16	10
Encephalitis	1	0	1
Chickenpox	21	4	6
Tetanus	1	3	4
Tuberculosis	211	221	265
Pellagra	9	12	29
Meningitis	7	7	4
Pneumonia	107	129	66
Trachoma	0	0	0
Tularemia	0	1	0
Undulant fever	5	7	8
Dengue	0	0	0
Amebic dysentery	1	0	0
Cancer	146	174	0
Rabies—Human cases	0	0	0
Positive animal heads	22	9	..

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Book Abstracts and Reviews

The Modern Attack On Tuberculosis. By Henry D. Chadwick, M. D., Superintendent of Westfield State Sanatorium 1909-1929; Tuberculosis Controller of the City of Detroit, 1929-1933; Commissioner of Public Health of the Commonwealth of Massachusetts, 1933-1938; Medical Director of Middlesex Tuberculosis Sanatorium, 1938-1941; and Alton S. Pope, M. D., Chief, Bureau of Communicable Diseases, Department of Health, Chicago, 1926-1929; Deputy Commissioner of Public Health and Director of the Division of Tuberculosis, Commonwealth of Massachusetts. Cloth. Price, $1.00. Pp. 95. New York: The Commonwealth Fund, 1942.

This is a concise little hand and handy book that presents a big subject with extreme brevity, clearness, and straightforwardness. It is a book of facts stripped of all bunglesome confusing statistics. It reveals unflinchingly that the tools for the control and eradication of tuberculosis are at hand and places the responsibility on the door-

step of an enlightened public and an alert, trained public health department conducted with a capable nursing service.

Chapter 2 includes a few pages of history in very readable narrative-like form, which is followed by the discussion of the epidemiologic aspects of the disease.

The diagnostic procedures are outlined with preciseness, while controversial issues are carefully avoided. Thereby the authors have kept carefully to the purpose and purport of their objective, an amazingly complete little discussion of one of the communicable diseases and the control problem connected with it.

The place in the picture for the control of tuberculosis by the sanatorium is clearly portrayed, while the word painting is here completed by a comprehensive but brief discussion of case finding. It might be considered that the final touch of genius is the last chapter which in a sense artistically frames the picture previously painted. It outlines an ideal community campaign for the eradication of tuberculosis.

This book includes all the essential information necessary for physicians, public health nurses, welfare workers, and lay organizations for the control of tuberculosis and thus it should be required reading for training such groups.

H. T.

Manual Of Clinical Chemistry. By Miriam Reiner, M. Sc., Assistant Chemist to The Mount Sinai Hospital, New York. Introduction by Harry Sobotka, Ph. D., Chemist to The Mount Sinai Hospital, New York. Cloth. Price, $3.00. Pp. 296, with 18 illustrations. New York: Interscience Publishers, Inc., 1941.

This book is the result of several years' experience in outlining directions for internes and laboratory technicians in Mount Sinai Hospital who are called upon to perform the various tests of a clinical laboratory. Many of the procedures are to be found only in the literature and lacking an extensive medical library would be difficult to consult in the original.

No attempt is made to present a complete bibliography but for the most part the most recent reference is given and from this one may work backward to refer to older papers on the subject if interested.

A distinct effort has been made by the author to select those biochemical methods offering greatest accuracy combined with simplicity.

To attempt a critical review of the scores of procedures included in the Manual is impossible but let it be said that they are those that have been found satisfactory by both the laboratory and clinical staff of the Hospital as affording assistance to both chemists and physicians in the correlation between routine analyses and clinical observations.

The directions for each procedure are concise yet adequate and the reviewer recommends the Manual as a valuable addition to the working library of any laboratory.

S. R. D.

Sex Fulfillment In Marriage. By Ernest R. Groves, Hoagland Groves, and Catherine Groves. With Introduction by Robert A. Ross, M. D. Cloth. Price, $3.00. Pp. 319. New York: Emerson Books, Inc., 1942.

Ernest R. Groves is professor of sociology at the University of North Carolina, gives courses in marriage and family life there and at near-by Duke University, is director of the Annual Conference on the Conservation of Marriage and the Family, and has written several books on marriage. Gladys Hoagland Groves (his wife) is director of Marriage and Family Council, Inc., and, like her husband, has written books on family relationships. Catherine Groves (their daughter) is executive secretary of the Family Service Association of Durham, N. C.

Such a background provides an ideal fountain of information and experience for the writing of a book like this. It is evident that these three have drawn upon it heavily.

They have made some surprising discoveries regarding public ignorance in matters of sex. There was, for example, the "very intelligent girl, brought up by conscientious parents," who believed, even after she entered college, that the birth of a baby—a normal birth, that is—involved a major operation in which the child was delivered through the mother's navel. There was also the university student who knew so little about reproduction that she became pregnant without her knowledge, a fact all the more surprising since she had taken courses in zoology. Such ignorance as this almost matches that described by an earlier writer, who told about a young woman who nearly went insane for fear she would have a baby and become a social outcast—all because a young man had stolen a kiss!

Such ignorance, the writing Groves contend, is all too often the result of home influences based upon the old Puritanical conception of morality and modesty. An example of this which they mention, admittedly an extreme example, has to do with a young mill employee who bled to death after suffering a severe gash in the leg because her home-taught ideas of modesty prevented her from allowing a male employe to bind up the injury until a doctor could be summoned.

"Such extreme cases do not reveal the social harm that is commonly brought into the life of girls by prudish parents," this trio of authors wrote in one of their best chapters, "Experiences That Influence Sex." "If, before marriage, sex, with everything pertaining to it, is made to seem a thing of shame that must be hidden at any cost, it is hopeless to expect a wedding ceremony to wipe out such impressions and give young women a fair opportunity to live a genuine and vigorous sex life in marriage."

There is a warning to the person in the courtship stage lest he or she be guided too much in the choice of a mate by considerations of sex. Marriages based entirely upon physical appeal occasionally succeed, we are told, but they are "extremely risky," since "physical passion by itself without any common interest or companionship is apt to fade away, and rather quickly."

But these three exponents of the importance of sex in family relationships warn at the same time against marriage which depends upon other

things than sex—platonic friendship, cultural congeniality, etc.—for its success. Such a marriage they call "a highly risky undertaking."

Practically every phase of sex as it affects the marriage relationship is touched upon pretty thoroughly. There are discussions, for instance, of the anatomy and physiology of sex, the problems facing the newly married couple, the husband's and the wife's particular responsibility in maintaining sexual congeniality, the sex problems which they share with each other, the venereal diseases as they affect marital happiness, contraception, pregnancy, childbirth, and the role of sex in society.

The authors have appended a list of books for the convenience of those wishing to do additional reading on sex and marriage. There is also an excellent index.

J. M. G.

A. M. A. News

SAYS AMPHETAMINE SULFATE AIDS IN TREATING ALCOHOL ADDICTS

PHYSICIAN FINDS IT IS OF CONSIDERABLE VALUE AS AN ADJUNCT IN TREATING CHRONIC CASES OF DISORDER; ADVISES CAUTION IN USE

A study of 513 chronic alcoholic addicts who were treated with amphetamine sulfate, psychotherapy and social reorientation and rehabilitation, leads Michael M. Miller, M. D., Lexington, Ky., to say that "In my opinion, amphetamine sulfate proved to be of considerable value as an adjunct in the treatment of this disorder," he reports in The Journal of the American Medical Association for September 26. The patients were treated and observed over a period ranging from four to fourteen months.

"Of 487 patients contacted 397, or 81.4 per cent, were abstinent," Dr. Miller says in his conclusions. "Comparison of 167 ambulatory patients who had been observed for a nine month period with an equal control group of untreated subjects revealed that 25 per cent of the treated group as compared with 42 per cent of the control group were rearrested. There were 191 rearrests in the untreated group as compared with 46 for the treated group. The percentage of patients receiving relief dropped from 39.5 before treatment to 18 after treatment. . . ."

The addicts were treated in the Municipal Court Clinic at Cleveland on charges of public intoxication.

Dr. Miller explains that "Cases were obtained in the following manner: Through cooperation of the Municipal Court, arrangements were made with the presiding judges to impose relatively severe sentences of from three to six months' duration on all rearrested alcoholic addicts. These addicts were then referred to us for treatment. . . . Patients were released on probation after having served from ten to thirty days of their sentences. . . . The control group of patients was secured from a large list of chronic alcoholic addicts who were brought before the court but not sent to the workhouse. . . .

"From the early stages of the experiment . . . it was apparent that no one type of treatment would prove adequate, since the alcoholic patient required not only physical, psychologic and social readjustment but rather all three spheres were simultaneously impaired and in need of treatment."

Dr. Miller says that a conclusive statement cannot be made concerning the relative value of the three treatment factors used. He says he was impressed with the amphetamine sulfate as an adjuvant in treatment "since it seemed to dissipate the apathy and depression following withdrawal of alcohol and in many instances facilitated the establishment of rapport with rather indifferent or negativistic patients. The drug appeared to produce an increased state of alertness, euphoria (feeling of well being), diminished emotional lability, greater ability to concentrate, greater activity drive and in many cases a feeling of wakefulness without apparent consciousness of fatigue."

He warns that "Overindulgence in this drug, however, may have detrimental effects in that it may produce irritability, restlessness, insomnia, anorexia, loss of weight, oral dryness and excessive diaphoresia. . . ."

1943 ANNUAL A. M. A. SESSION CANCELED

"The American Medical Association will not hold its ninety-fourth annual session, scheduled to convene in San Francisco in 1943," The Journal of the Association announces in its September 26 issue. The editorial on the action by the Association's Board of Trustees explains that: "This is the third time in the history of the Association that an annual session has been canceled. In 1861 the session was postponed for a year because of the outbreak of the war between the states, and in 1862 it was again postponed for a year because of the demands of the war on the medical profession. The

House of Delegates, the Board of Trustees, the scientific councils and the officials of the Association will be called into session to deal with the affairs of the Association, particularly the many wartime responsibilities being borne by the medical profession.

"The tremendous demands on the medical profession of the United States in association with the war, including the provision of physicians for the armed forces, for the care of veterans, for industry and for the care of the civilian population, has caused the Board of Trustees of the American Medical Association to give special consideration to problems associated with the holding of the session.

"The annual session of the Association with the attendance usually assembled on such occasions would take away from medical practice at the time from six to ten thousand doctors, together with many persons in associated professions concerned with the Scientific Exhibit, the Technical Exhibit and other features. The demands on the time of physicians are already innumerable. Moreover, the holding of the session in San Francisco would involve transportation in large part from other sections of the country, calling particularly on the railroads and also on all other means of transportation.

"The Board of Trustees has given special attention to statements issued by the Office of Defense Transportation, the War Department, the Navy Department and other governmental agencies concerning the holding of conventions.

"The primary consideration involved particularly relating to the annual session is the call that would be made on the time and work of physicians. Already the utmost that the medical profession can do to provide medical services for the Selective Service System, the Army, the Navy, the Public Health Service, industry and the civilian population is in some places being severely strained. These demands will no doubt be intensified by next June.

"While the Scientific Assembly and the Scientific and Technical exhibits will not be held in 1943, the many significant problems of the medical profession occasioned by the war, particularly such as concern the provision and distribution of physicians and the provision of medical service, are of such moment that the House of Delegates, the Board of Trustees, the various scientific councils and officials will be called into session in June 1943. This meeting will be held in Chicago in order to place the minimum stress on the time of the physicians concerned and on the transportation facilities of the nation.

"In making these decisions the Board of Trustees has kept in mind the solemn obligation entered into by the House of Delegates and the Board of Trustees of the American Medical Association to give to the nation every possible contribution that the Association can make to aid the war effort."

AMERICAN MEDICAL DIRECTORY TO BE RELEASED WITHIN TEN DAYS

A. M. A. JOURNAL, IN EDITORIAL OUTLINING DATA IN 17TH EDITION, SAYS IT IS AN IMPORTANT CONTRIBUTION TO NATION'S WAR EFFORT

The new Seventeenth Edition of the American Medical Directory, compiled and published by the American Medical Association, to be released within the next ten days, is an important contribution to the nation's war effort, The Journal of the Association points out in its September 26 issue in an editorial outlining the data contained in the Directory and how to use the book. The Journal says:

"The new Seventeenth Edition of the American Medical Directory is in the bindery. Never before has a new directory been so much in demand. The intensified activities of physicians, pharmaceutical manufacturers, insurance companies and the medical branches of the Army, Navy, Selective Service System and the Procurement and Assignment Service have made the need for an up-to-date medical directory especially urgent. The American Medical Directory is the only national medical directory of physicians published. It covers not only the United States but also Canada, Alaska, the Canal Zone, Hawaii, the Philippines and Puerto Rico.

"The new Directory will show, as far as the information is obtainable, those physicians who had already joined the armed forces up to the time the forms were closed for printing. The medical officers of the Reserve Corps of the United States Army and the Army of the United States, of the Navy and the Naval Reserve, and of the Na-

tional Guard on active duty are listed at their permanent home addresses. The medical officers of the regular United States Army, Navy and United States Public Health Service are listed in the front section of the book according to rank, as in previous editions. However, for military reasons Army and Navy officers are listed in the geographic section of the Directory under Washington, D. C., instead of the station to which they have been assigned.

"Other new information included in the Directory is the certification of 4,000 additional physicians as specialists by the various American boards. Data have been added on the new boards covering plastic surgery and neurologic surgery. The American Board of Internal Medicine now also certifies candidates in the medical subspecialties of allergy, cardiovascular disease, gastro-enterology and tuberculosis. The American Board of Surgery now certifies specialists in the subspecialty of proctology.

"The new Directory contains 201,272 names of physicians and 2,801 pages, or 126 pages more than the previous edition. Since the last edition, 15,223 new names of recent graduates and physicians from abroad have been added and more than 72,114 changes of address have been made. Names dropped from the Directory number 8,656, principally on account of death.

"The Directory may be divided into three parts. The first covers national and interstate information, the second lists information regarding hospitals and biographic data of physicians and the third is the alphabetical index of physicians.

"The first division includes data regarding the officers and the Constitution and By-Laws of the American Medical Association, histories of medical schools, medical libraries, journals, and the officers and members of special medical societies. A list of the members of the National Board of Medical Examiners and officers of the examining boards in the medical specialties, and also a list of approved interneships, approved residences and fellowships. government officers of the Army, Navy, Public Health Service, Veterans' Administration and the Indian Field Service appears in this section.

"In the second section, or the body of the book, will be found a list of hospitals and physicians grouped by states. Under each state appear data regarding medical practice and digest of laws, officers of examining boards, boards of health, and state and county medical societies. Following this information will be found the list of hospitals, indicating the number of beds in each, the kind of institution and the name of the person in charge. Next comes the alphabetical arrangement by cities of the list of physicians, with biographic data as to year of birth, medical school and year of graduation, year of license, membership in special societies, residence and office addresses, and a special symbol if the physician is serving with the armed forces.

"The third section of the book contains the names of physicians alphabetically arranged by surname, followed by the city and state under which detailed information regarding the physician may be found in the body of the book.

"Here is information on how to use the Directory. On the front cover is a list of the states and the page number on which the information may be found. Open the Directory to any section. On the top of the pages are titles, guide words to indicate the data given on the pages. Once you have found the city, it is easy to look up the name of the physician because the names are arranged alphabetically. If you do not know the location of the physician and have only his name, you can refer to the alphabetical index for his city and state. A knowledge of the exact meaning of the symbols and abbreviations used is essential; study for a few minutes pages 6 and 7. Keep these page numbers in mind, mark them if necessary, and turn to them frequently until you are well acquainted with them, so that the entry after each name unfolds its full meaning. Many subscribers to the Directory do not familiarize themselves fully with the abbreviations and symbols and consequently do not appreciate, or use, the full value of the Directory. Learn to use this book whenever you want facts concerning a physician not well known to you. What privileges or protection does the medical law of a state give? To what sanatorium can I send a patient? Who is the author of this article in my journal? Who is the physician who has called for consultation? All this and much other information on medical topics are arranged conveniently for reference in this new edition of the American Medical Directory."



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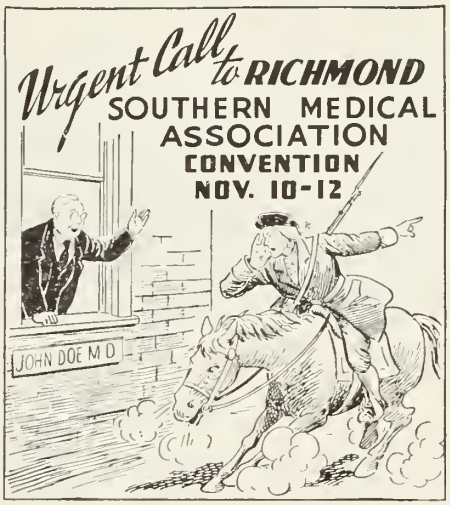
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Terms Reasonable



PHYSICIANS of the South have an urgent call to Richmond for the annual meeting of the Southern Medical Association, Tuesday, Wednesday and Thursday, November 10-11-12 — a great wartime meeting. In the general clinical sessions, the twenty sections, the four independent medical societies meeting conjointly and the scientific and technical exhibits, every phase of medicine and surgery will be covered—the last word in modern, practical, scientific medicine and surgery. Addresses and papers will be given by distinguished physicians not only from the South but from other parts of the United States.

REGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Richmond a program to challenge that interest and make it worth-while for him to attend.

ALL MEMBERS of State and County medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $4.00 include the Southern Medical Journal, a journal valuable to physicians of the South, one that each should have on his reading table.

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Dr. M. J. L. Hoye, Supt.

Fellow of the American Psychiatric Association

Miscellany

'ONE DAY SYPHILIS CURE' ARTICLE IS ASSAILED BY A. M. A. JOURNAL

SAYS A PRELIMINARY MEDICAL INVESTIGATION HAS BEEN EXPANDED FAR BEYOND ANYTHING AVAILABLE EVIDENCE COULD WARRANT

A recent article in Reader's Digest by Paul de Kruif on a so-called "one day cure for syphilis" is assailed by The Journal of the American Medical Association for September 5 as "another instance in which Mr. de Kruif has expanded preliminary medical investigations into announcements to the public that go far beyond anything that the available evidence could warrant." The Journal editorial says:

"In the Reader's Digest for September appears an article by Paul de Kruif entitled 'Found: A One Day Cure for Syphilis,' heralded by the editors of that periodical as 'the medical sensation of the year.' In this article Mr. de Kruif states that 'now there actually is promise of a one day cure.' He asserts without, of course, any basis in fact that 'the standard eighteen month course of treatment is too painful, too dangerous, too prolonged for the mass cure of early syphilis.' After describing certain experiments conducted by Drs. Walter M. Simpson, H. Worley Kendell and Donald L. Rose in the Miami Valley Hospital, he concludes:

"With a one day cure available, with plenty of doctors and nurses trained in fever therapy, and using equipment which costs little war material, we ought really to begin to wipe out the horror of syphilis. There are a million active cases in the United States. With this powerful new treatment, all persons found infected with active syphilis could be taken out of circulation and their danger to the community quickly abolished. The immediate expansion of this chemothermic treatment should bring hope to those countless hundreds of thousands who are inadequately treated or who are not treated at all. In the meantime, all those now under standard treatment should continue it until the new chemothermic treatment becomes generally available; this for their own as well as for the public safety.

"As nearly as can be determined, all this effusion is based on a few paragraphs from an article on fever therapy by Drs. Walter M. Simpson, H. Worley Kendell and Donald Rose, published in the British Journal of Venereal Diseases for January-April 1941, in which the authors state:

"The present plan of treatment is as follows: A ten hour session of fever at 106 F. (41.1 C.) has been adopted tentatively as the initial unit of fever, since these limits have proved to be safe and practical in the management of patients with refractory gonococcic infection. Prior to the fever session a single injection of 4 grains of insoluble bismuth is administered intramuscularly. During the first seven hours of the height of fever, 240 mg. of mapharsen are administered intravenously by the slow intravenous drip method. No additional antisyphilitic therapy is given.

"To this they append the following highly conservative opinion:

"While no conclusions are permissible since the period of post-therapy observation is as yet less than two years, the prompt resolution of clinical symptoms and the favorable serologic responses would indicate that further diligent inquiry is demanded. The results of this purely experimental undertaking will be made the subject of a later report.

"In their ultímate 'conclusions' they say:

"At the present time such treatment should be considered strictly experimental.

"The results achieved thus far should stimulate other investigators to engage in long term, controlled experiments with a view to the introduction of a more rapid, more certain, less dangerous and less costly method of treatment.

"In a review of syphilis to appear soon in the Archives of Internal Medicine, Drs. Frank W. Reynolds, Charles F. Mohr and Joseph Earle Moore of Baltimore say:

"With his usual uncritical judgment, hyperenthusiasm and willingness prematurely to capitalize journalistically on sober scientific experimentation, de Kruif has unhappily drawn nationwide attention to this 'one day cure' for syphilis. This tendency of medical journalists to raise false hopes in lay minds can only be deplored. With all due respect to democratic freedom of speech, it is too bad that no censorship exists to compel conservative accuracy from medical sensationalists.

"This is another instance in which Mr. de Kruif has expanded preliminary medical investigations into announcements to the public that go far beyond anything that the available evidence could warrant. The Journal is being deluged with letters from physicians indicating that the article already is doing great harm in creating dissatisfaction among persons with syphilis as to time that may be required to bring about cure. Dr. Walter M. Simpson is an officer of the Bureau of Medicine and Surgery of the United States Navy and has been for some months away from contact with the continental United States. It is unfortunate that in his absence the statements of Mr. Paul de Kruif should have placed him and his research in such an unenviable position before the medical profession."

SAY FRACTURES OF FOREARM OF CHILDREN ARE DIFFERENT FROM THOSE OF ADULTS

"Fractures of the forearm in children are different from those in adults and should be differently treated," Walter P. Blount, M. D.; Arthur A. Schaefer, M. D., and J. Howard Johnson, M. D., Milwaukee, declare in the September 12 issue of The Journal of the American Medical Association.

They explain that such fractures "must not be considered along with fractures of adults under anatomic classifications which take no account of the growth factor. They are different as to pathologic conditions, treatment and prognosis. Intelligent management must recognize this fact. . ."

The three physicians say that "there is a definite hazard associated with open reduction of fractures of the forearm in children.

"Except at the elbow, open reduction of forearm fractures is difficult to justify in children.

"Greenstick fractures of the middle third should be reduced by completing the fracture in the interest of maintaining alinement. . ."

Greenstick fractures are common in children and rarely occur in adults.

MEDICAL FRAUDS COST VICTIMS MILLIONS OF DOLLARS ANNUALLY

HYGEIA WRITER SAYS TOLL IS NOT ONLY MONEY AND CRUSHED HOPES OF RELIEF BUT, GRAVER STILL, ENDANGERMENT OF THEIR HEALTH

Annually, victims of countless medical frauds hand over millions of dollars to the promoters of worthless gadgets, false cures and nostrums, R. M. Cunningham, Jr., Chicago, declares in Hygeia, The Health Magazine for September. "At best," he says, "these victims are defrauded of their money; their hopes of relief from suffering are cruelly crushed. But there are graver consequences. Their health is endangered by delaying the scientific diagnosis and treatment which hold their only real chance for recovery. Worse yet, in many instances they may have taken treatments or medications which were actually harmful. . .

"Sufferers who know or suspect that they have an incurable disease will grasp at straws; thus patent mummery flourishes when promoted under the label of 'cancer cure.' . . . Tuberculosis cures for years were sure-fire money makers for the unscrupulous. Advertisements commonly seek to profit by the tuberculosis patient's reluctance to be confined in a sanatorium and his fear of surgery. An order by the Federal Trade Commission prohibiting false representations by the manufacturer of one of these nostrums reveals that it had been advertised as a compound that would cure tuberculosis, not only 'without surgery or segregation'—the usual claims—but in this case 'without diagnosis' as well. . . Peddlers of nostrums were quick to recognize that the diabetic longs for some means of sustaining life without the necessity for daily injections of insulin. Today, many fakers are specializing in 'cures' for diabetes, claiming that they can effect permanent cures regardless of the age or condition of the patient, and that the users may discontinue taking insulin. Actually, the science of medicine knows no substitute for insulin injections for the diabetic whose blood sugar cannot be regulated by dietary management. . ."

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*Journal of Medicine, **June**, 1937. 1937 Year Book of General Medicine. 1937 Year Book of Eye, Ear, Nose and Throat, etc.

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ELECTROSHOCK TREATMENT IN PSYCHIATRIC DISORDERS*

By
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J. D. SMITH, M. D.
And
N. H. REIM, M. D.
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Shock therapy as a term became the topic of lay and professional discussion about five years ago. It referred at that time to the therapeutic, insulin-induced hypoglycemia of Sakel and the metrazol convulsive therapy of Meduna. Both methods were first advocated and used for the treatment of that usually chronic, generally unfavorable mental disorder known as dementia precox or schizophrenia.

In 1938 one of us reported to this Association our experiences with metrazol.[1] We recommended its use not only in schizophrenia but also stated that we felt that it offered much help in the management of certain affective disorders; namely, acute mania, certain depressions and involutional melancholia. Since that time much has happened. Therapeutic convulsions have been induced by the use of camphor, picrotoxin, triazol, coriamyrtin, tutin, ammonium chloride, by nitrogen inhalations and by passing a current of electricity through the brain. Today, after using shock therapy of various sorts for approximately five years in over 600 patients to whom were administered more than 7,000 individual treatments, we appear again in an attempt to bring a little order out of confusion. Our early experiences were with metrazol mainly and with a small number of insulin-treated patients.

In 1938 electroshock was introduced in Italy by two of its native physicians, Cerletti and Bini.[2] It spread to Holland and to England, and in 1940 began to be used in the United States.[3] In the latter part of 1940 we became familiar with the method and its technic and began the work upon which this report is based. This statistical study includes 231 patients (189 females and 42 males) ranging in age from 12 to 66 years and to whom were administered 2,581 individual treatments. The smallest number given to any one patient was 2 and the greatest 61. Of these 231 patients, 163 are now at home and 64 remain in the hospital.

Our selection of patients was erratic. Many we treated because our previous experience with convulsive therapy led us to feel that favorable results could be expected. A number of cases were included because parents of apparently hopeless individuals requested that shock therapy be tried, even though it could be predicted, almost with certainty, that treatment would prove ineffective.

TECHNIC

The first step in technic is a careful selection of patients. The question that must be answerable in the affirmative is: Can this patient stand a severe convulsion? A careful clinical examination is made, as well as indicated laboratory study, including x-ray investigations and electrocardiographic tracings, in an effort to arrive at some conclusion as to the condition of the circulatory system with special reference to cardiac lesions, hypertension and arteriosclerosis; to the skeletal system with regard to the fragility of the bones, and to the phys-

*Read before the Association in annual session, Montgomery, April 21, 1942.

1. Kay, F. A.: Metrazol Treatment of the Psychoses, J. M. A. Alabama 7: 450-454 (June) '38.

2. Cerletti, U., and Bini, L.: Electroshock Treatment, Bull. Acad. Med., Rome 64: 36 (May) '38.

3. Kalinowsky, L., and Barrera, S. E.: Electric Convulsion Therapy in Mental Disorders, Psychiatric Quart. 14: 719-730 (Oct.) '40.

ical condition for signs of general debility. Should a patient be declared a poor risk, we are sometimes able to reduce the severity of the reaction by the use of intocostrin, a preparation of curare, which is still in its experimental stage and which paralyzes the myoneural junctions thus reducing the muscular force of the convulsive seizure. This preparation is expensive and not without hazards of its own. Most of our patients in this report were under forty-five years of age and in our opinion well enough physically to be considered good risks. The remainder were primarily cases in which intocostrin was used—to be exact, 11 in number.

The actual machine is a small compact unit which allows the use of an ordinary alternating current in such manner that a shock of controlled voltage and duration can be given through electrodes applied to the right and left temporal regions. Even though experimental evidence seems to prove that only 1/75th to 1/100th of the actual dosage reaches the brain (the remainder being utilized to overcome resistance), every effort is made to produce a satisfactory reaction with the smallest dose possible. Experience has shown that the required dosage usually lies between 70 volts given for 0.1 sec. and 130 volts given for 0.25 sec. with the average case receiving 100 volts for 0.15 sec.

The patient is given the treatment while reclining on a rolling stretcher or a table, with a small firm pillow under the thoracic region of the vertebral column to produce slight hyperextension. Nursing personnel is present to prevent excessive flexion of the vertebral column and abduction of the extremities, thus helping to prevent the fractures and dislocations which were quite numerous in the earlier days of convulsive treatment. The efforts of the nurses are designed merely to control the coarser movements, not to hold the patient motionless. Should the elected dosage fail to produce a satisfactory reaction the procedure is repeated in two or three minutes with either the voltage or the time slightly increased, the patient, however, having no recollection following the initial shock even though it proved to be inadequate. Usually not more than three unsuccessful attempts are made at any one treatment period. Most cases of an affective nature are treated symptomatically thus receiving their treatments only as their behavior indicates it. Patients receiving shock treatment for other disorders are given two treatments weekly.

Electroshock treatment with us has practically replaced insulin and metrazol, the former because of the expense and the number of well trained persons required in its administration, and the latter because of the undesirable and unpleasant side actions.

TABLE I

RESULTS IN SCHIZOPHRENIA CLASSIFIED ACCORDING TO DURATION OF PSYCHOSES

Total Cases—145

RESULTS	0-6 Mo.	7-12 Mo.	13-24 Mo.	2-3 Yrs.	3-5 Yrs.	Over 5 Yrs.
REMISSION OR APPARENT RECOVERY	15	1				
MATERIAL IMPROVEMENT	23	8	11	2	4	2
UNIMPROVED OR QUESTIONABLE IMPROVEMENT	13	3	10	18	18	17
PERCENTAGE REMISSION AND MATERIAL IMPROVEMENT	74%	75%	52%	10%	33%	10%
PERCENTAGE RECOVERY AND MATERIAL IMPROVEMENT		69%			13%	
			47%			

TABLE II

RESULTS IN AFFECTIVE DISORDERS MANIC DEPRESSIVE PSYCHOSES

Total Cases—59

TYPE		REMISSION	IMPROVED	UNIMPROVED
MANIC	No.	19	3	2
	%	91%		
HYPOMANIC	No.	1	0	3
	%	25%		
DEPRESSIVE	No.	17	4	2
	%	91%		
STUPOROUS	No.	4	0	0
	%	100%		
MIXED	No.	2	0	2
	%	50%		
TOTAL	No.	50		
	%	86%		

The basis for tabulation is whether results were immediate and sustained as these cases tend toward eventual spontaneous recovery. The manic cases required more treatments and showed a greater tendency

to relapse unless treatment was continued, sometimes beyond desirable limits. For this group of manics we continued treatment until remission or improvement was maintained.

TABLE III
INVOLUTIONAL MELANCHOLIA
Total Cases—9

	REMISSION	IMPROVED	UNIMPROVED
No.	6	1	2
%	78%		

TABLE IV
PSYCHONEUROSES
Total Cases—14

TYPE		REMISSION	IMPROVED	UNIMPROVED
HYSTERICAL	No.	0	6	7
	%	85%		
NEURASTHENIA	No.	0	1	2
	%	33%		
OBSESSIVE COMPULSIVE	No.	0	1	1
	%	50%		
REACTIVE DEPRESSION	No.	0	1	1
	%	50%		
ALL TYPES	No.	0	9	
	%	64%		

TABLE V
PARANOID STATES

	REMISSION	IMPROVED	UNIMPROVED
No.	0	0	4
%	0%		

STATISTICAL CONCLUSIONS

Electroshock treatment appears to be effective in the treatment of the following psychiatric disorders in the order listed below:

1. Affective or manic-depressive psychoses —more especially the stuporous, depressive and manic types; less effective in the mixed and hypomanic types.
2. Involutional melancholia.
3. The psychoneuroses, particularly conversion hysteria.
4. The schizophrenics, especially those of short duration and of the catatonic and paranoid types.
5. The paranoid states appear here not to respond at all favorably.

For the affective cases we recommend 2 to 10 treatments with due consideration of all adverse possibilities if the maximum number is exceeded.

For the schizophrenics we recommend a minimum of 10 treatments and a maximum of 20 unless increasing improvement is noticeable with 20 treatments, under which circumstances treatment may well be continued.

IMPRESSIONS

In giving our impressions we shall deal both with our statistical tables and with certain intangibles that come from experience. For example, we feel that the treatment of the manic or acutely excited case should be based on whether there is a favorable response within the first four or five treatments. If there is not we doubt the advisability of continuing treatment because manics are prone to have many such attacks throughout life and the many treatments required for the multiple attacks will probably lead eventually to excessive cellular damage of the cerebral cortex. Also, while our tables show good results in hysteria, the patients responding favorably were elementary credulous people and we believe the psychic element was a prominent factor. These patients all retained a neurotic personality structure and other hysterical episodes are to be expected. We cannot but feel that the excessive and injudicious use of electroshock may result in permanent brain damage and mental deterioration. Hence, we always ask ourselves, "Is such drastic treatment justified by the present emergency or the intrinsically unfavorable prognosis?" And while treating a patient we are always mindful of the need to utilize the fewest possible treatments of the smallest possible intensity needed to produce a seizure. We further believe that shock therapy is but one method, one approach to a complex problem and that never should a thorough study of the patient's background, environment, personality or pattern of behavior be neglected, nor should we fail to utilize appropriate psychotherapy as well as other adjuncts, such as recreational and occupational therapies, when they are indicated, as they usually are. We believe that insulin is still the method of choice in treating certain types of schizophrenia but be-

cause of the various factors involved, mainly expense, we are able to use it in only a selected few.

In answer to the question, Does death ever result from treatment? we give you the figures of the U. S. Public Health Service[4] to date which reports 4 deaths out of 6,681 cases treated with electroshock or approximately .06% against 0.2% for metrazol and 4.9% for insulin cases.

PRACTICAL FACTORS IN SPINAL ANESTHESIA*

By

ERSKINE M. CHENAULT, M. D.

Decatur, Alabama

Spinal anesthesia is a special kind of nerve block. As we ordinarily speak of nerve block, the factors of strength, contact and time, on the part of the drug, and that of affinity, on the part of the nerve tissue, control the effectiveness of the block.

The same factors apply in the subdural block of the spinal nerve roots. But other factors are involved also. The anesthetic solution, deposited in the subarachnoid space, immediately comes in contact with the nerve fibers, exposed, except for the spinal fluid. The spinal fluid instantly dilutes the anesthetic and begins to diffuse it. The anesthetic solution must be of sufficient strength to allow for dilution; and diffusion must be used to further the anesthesia and not allowed to create complications. Sufficient anesthetic, in adequate concentration, must be in contact with the nerves in order to be fixed in these nerves. Any type of block, affecting the entire distribution of the nerve distal to the block, produces much anesthesia with little drug. In spinal anesthesia, toxic drug effects, from systemic effects after absorption, are found only in those patients with an idiosyncrasy. But impairment of vital functions may occur if the anesthetic should reach the bulbar region by diffusion of the drug in potent concentration. Babcock[1] remarks that in no other way can such an extensive analgesia be obtained from such a small dose of a drug. He calls attention to the fact that the dosage is determined, not by the size or weight of the patient, but by the size of his spinal canal. Vehrs[2] concurs in this, and reports detailed study of the anatomy and pharmacology involved.

Certain direct factors are under control of the anesthetist: (1) choice of drug, (2) dose, (3) volume of the solution, (4) its specific gravity, (5) speed of its injection, (6) the level of the intervertebral space where the anesthetic is injected, and (7) the position of the patient.

Certain other factors are indirect: (1) the volume of the dural sac, or capacity of the spinal canal, and (2) the spinal fluid pressure.

Diffusion is a form of counteraction tending to disperse and nullify the anesthetic. If taken into account, it serves to advance the height of anesthesia; to ignore it invites failure or disaster. The factors named control it. Several writers[1,2,3,4] describe the technique of withdrawing a quantity of fluid before the anesthetic is injected for the purpose of reducing the volume of the spinal fluid, reducing its pressure, increasing the space available, and increasing the concentration and diffusion of the anesthetic. The amount withdrawn varies from 10 cc. to whatever amount will drain out. This method is said to produce a more widespread anesthesia, reaching even to the neck and face, of more profound degree, and longer duration. It is also said to increase the anesthetic mortality. There is disagreement as to the amount of spinal fluid. Dogliotti[3] states that the amount is 35 to 45 cc. below the foramen magnum. He estimates that 15 to 20 cc. of this amount are found in the part below the 2nd lumbar vertebra. He finds that, with no fluid withdrawal, when the patient is in the Trendelenburg position, at the lumbar region the spinal fluid pressure is negative. Of the principal factors af-

4. Kolb, Lawrence: Personal communication to the author.

*Read before the Association in annual session, Montgomery, April 21, 1942.

1. Babcock, W. Wayne: Textbook of Surgery, ed. 2, Philadelphia, W. B. Saunders Company, 1935, pp. 529-540.

2. Vehrs, George R.: Spinal Anesthesia, Technics and Clinical Application, St. Louis, C. V. Mosby Company, 1934.

3. Dogliotti, A. M.: Anesthesia, Translated by Carlo S. Scuderi, Chicago, S. B. Debour, 1939, pp. 499-625, Section on Spinal Anesthesia; chap. 8, pp. 499-515; chap. 9, pp. 521-566; chap. 10, pp. 567-625.

4. Labat, Gaston: Regional Anesthesia, Philadelphia, W. B. Saunders Company, 1924, chap. 12 and 13, pp. 436-466.

fecting diffusion, it is possible to have accurate knowledge of all, except the spinal canal, or, more to the point, the dural sac capacity. It is difficult to measure the spinal canal. Another factor, more often estimated than measured, is the pressure of the fluid.

In a series of our cases manometric pressure readings were taken. Measured pressure was very different from estimated pressure; the rate of flow through the needle was proved an inaccurate guide. To eliminate the effect of position in comparison, all were taken with the patient lying on the side, usually the right. In each the spine was flexed by having the head and neck bent downward and the knees drawn up; the patient was asked to relax as much as possible. After puncture of the dura with the spinal needle and removal of the stylet, a 3-way stopcock was fitted to the needle and to it the manometer was attached. The manometer consists of a glass tube of small bore, with luer adapter at one end, and graduations in centimeters. The spinal fluid furnishes the column of liquid; the amount so used is less than one cc. This type of manometer is sometimes used for determination of venous pressure. Sixty-eight (68) readings were tabulated in the series. The oldest patient was 77, the youngest 10 years of age. The highest pressure recorded was 340, the lowest 55 mm. of fluid. Fifty-nine or 86.9% had pressures between 110 and 250 mm. The average was 179 mm. It was found that slight exertion, such as attempting to flex the neck further, might cause a rise of 100 mm. In another series, with different personnel and technique, the pressures might be found different.

Anesthesia was observed critically in the patients in this series. Better or deeper anesthesia, of longer duration, was found in those showing lower pressures, as a rule. The patient whose pressure was 55, in whom the other factors seemed not to be unusual, developed cardiac arrest. Through the laparotomy wound transdiaphragmatic massage relieved this condition, and her recuperation was uneventful. At one time it was considered that the spinal fluid pressure varied with the blood pressure. In our series this relationship could not be shown. Some of the highest blood pressures encountered were in patients with spinal fluid pressure in the group of the lowest, and vice versa.

Vehrs[2] in his comprehensive studies measured the dural sac length. He states that the volume of the spinal fluid varies as does the length of the dural sac.

As a quick yet definite method for arriving at a value for this factor in the individual patient, a single measurement, from the last cervical vertebra (because of its prominence) to the caudal end of the sacrum, was taken on patients in our series. It was found to bear no relationship to the height of the individual. A group of 28 men, with average height of 69 inches and average weight of 157 pounds had an average measurement of this part of the spine of 26.7 inches. It was 25 inches in a man 66 inches tall weighing 140 pounds, and in another of 71 inches and 190 pounds; and 28 inches in a man 67 inches tall and weighing 145 pounds. This measurement was also taken in the position of flexion of the spine; flexed just enough to abolish the lumbar convexity and allow a tape stretched along the spine to touch at the lumbar region. It is greater than the corresponding dural sac length, but bears a fairly constant ratio to it.

The tendency to use complicated mixtures of anesthetic with other drugs seems to have waned. Instead only one, or a very few, anesthetic drugs are used. The drug is often mixed in the spinal fluid itself; this solution is heavier than the spinal fluid. In our series only procaine and tetracaine (pontocaine) have been used. One is used for short, the other for longer duration of anesthesia.

If injected at the nerve segmental level of the region to be anesthetized, less anesthetic is needed because it is most concentrated at the desired nerves; diffusion is then a disadvantage. A small needle is preferable, about 22 gauge. Drug dosage and volume of solution are greater if by diffusion the desired area of anesthesia is at a different level from the injection. Speed of injection varies from 0.5 cc. to 1 cc. per second. The spine is level during injection; tilting favors flow of the drug by gravity.

In the patient with longer than average spine length factor, the factors favoring diffusion are likely to need to be increased, and can be safely, provided the spinal fluid pressure is not unusually low.

The drug is fixed in the nerve tissue in from 5 to 15 minutes. During that time the Trendelenburg position should be used with

caution, if at all; after fixation it may prevent cerebral anemia.

Blalock[5] holds the impression "that the present enthusiasm for spinal anesthesia will increase even further and that additional measures for controlling its action will result in a lessening of the dangers associated with its use." He states: "Controllability of administration of spinal anesthesia consists of preventing the depressing effects upon the respiration and the circulation. If amounts of procaine not exceeding 150 mg. are given, if vasoconstrictor drugs are used in conjunction with the procaine, and if the use of spinal anesthesia is restricted to operations below the diaphragm and, better still, below the umbilicus, the employment of spinal anesthesia is associated with very little danger."

DISCUSSION

Dr. Joseph D. Wilson (Birmingham)—There are just five points that I would like to emphasize very briefly:

(1.) Anesthesia has undergone tremendous changes for the better in the last few years; more refinements may be expected in the future. Therefore, rule one is never to be overenthusiastic about any one type of anesthesia to the exclusion of all others. Know something of all the anesthetics and use the one best suited to the particular patient and procedure you have in mind.

(2.) Spinal anesthesia is one of our most useful forms and gives unrivaled relaxation and freedom from postoperative complications.

(3.) It is well to remember that we do have a certain number of deaths directly due to spinal anesthesia itself and that certain spinal cord injuries with resulting paralysis of the lower extremities do occur. I have just heard of one such case before leaving for this meeting. Therefore, I am inclined as a rule to use spinal in those major abdominal procedures where relaxation is of paramount importance and to utilize some other form of anesthesia for the more minor operations.

(4.) In the Lahey Clinic not long ago, I saw spinal anesthesia being given by the continuous method for operations lasting more than 1½ to 2 hours. For extensive procedures this method appears promising and reasonably safe when given in expert hands.

(5.) For a very long time I have felt that all anesthetics should be given by a doctor of medicine especially trained to administer them. It is a tremendous comfort to the operator to have a doctor well trained in the art of anesthesia; one who will see the patient the night before and who will help choose the best anesthetic for that individual. The doctor specializing in anesthesia truly takes over the burden and much of the responsibility of the anesthetic at the operating table, so that the surgeon may properly concentrate on the work at hand. I prophesy that in a few years a trained physician to administer the anesthetic will be the rule rather than the exception no matter what type of anesthesia is being used.

5. Blalock, Alfred: Principles of Surgical Care: Shock and Other Problems, St. Louis, C. V. Mosby Company, 1940, pp. 40 and 55.

INTRAVENOUS ALCOHOL IN POSTOPERATIVE ANALGESIA*

By

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And

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In the past two decades there have been no major advances in surgical technique with the single notable exception of the topical use of sulfonamide derivatives; yet during that same period the prognosis in major surgery has improved immeasurably, both as to mortality and to morbidity. Obviously, the reasons for this improvement lie in the preoperative preparation and postoperative care of the surgical patient, with, of course, more accurate diagnosis made possible by improved laboratory facilities. Intravenous fluids, proper diet, prostigmine, oxygen therapy, sulfonamides; transfusions of blood and of plasma; all these have only recently come into frequent use. The postoperative routine today is utterly different from that of even a decade ago. With all this, however, there is one thing which has remained constantly to plague the postoperative patient—gas pains. From the time of the first laparotomy, distention and gas pains have been the almost inevitable postlude to abdominal surgery. Wangensteen with his continuous duodenal suction took a great step toward the relief of severe distention, but not of the nagging, cramping, maddening effects of gas in a partially paralyzed colon which is the bane of the existence of the post-laparotomy patient. Ochsner was searching in the right direction when he sought, and found in regularly administered morphine, a stimulant to the musculature of the intestine; but morphine could only cause tonic, spastic contraction, not the desired normal, gentle peristalsis. Furthermore,

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From the Department of Surgery of the F. Hood Craddock Memorial Clinic.

there is excellent reason to believe that eventually the stimulating effect of the morphine gives way to a secondary relaxation, possibly because of over-fatigue of the spastic musculature which was never designed to contract constantly, but only rhythmically. Prostigmine, with its parasympatheticomimetic action, was the logical and physiologic answer to the problem, but even it failed to produce all of the hoped-for results. Why should it fail? What was acting to produce that intestional semi-paralysis with such persistence that all of the logical means of combating it were of no avail? Gas pains, we have said, have been present since the beginning of abdominal surgery. What is the other single factor, which could be eliminated, which also has been present throughcut the history of abdominal surgery?—morphine, that greatest of pain-relieving drugs, but also a member of the opium family, notorious and even useful in its production of constipation, with the implied lack of peristalsis; and second only to heroin and cocaine as a producer of drug addiction. Truly it is a two-edged weapon in the combat against human misery. It was with the idea of eliminating morphine from the postlaparotomy routine that the research embodied in this paper was undertaken.

That intravenous infusions of five and ten percent solutions of alcohol can be used for the relief of intractable pain has long been widely known, in spite of the nearly complete lack of literature on the subject. Since there were no known contraindications to the procedure, it was decided to try the effects of this medication in relieving postoperative pain, with the view of eliminating some of the undesirable side effects of morphine and its derivatives. This paper will attempt to present the results obtained in the first fifty cases so treated at the Sylacauga Infirmary-Drummond Fraser Hospital. Many more cases have been treated according to the method outlined below, and it is hoped that these may be presented in a later paper when all of the involved factors have been tabulated.

The routine employed has continued essentially the same from the beginning of the series, with only minor exceptions such as decrease of dosage in very small individuals. Most of the surgery has been done under spinal (pontocaine) analgesia, with the customary preoperative preparation. Postoperatively, as soon as the patient is returned to his room, the orders given below go into effect. It has been found advisable to start the first infusion of alcohol as soon as the patient is returned to his bed. Routine orders are:

1. Prostigmine methyl sulfate solution 1:4000, one cc. every 2 hours for eight doses, beginning immediately after the operation.
2. Five percent glucose solution, 1000 cc. twice daily.
3. Ten percent alcohol in 5% glucose solution, 500 cc. as often as necessary.
4. Sodium phenobarbital, gr. 3 to 5 as often as necessary for restlessness.
5. Tap water only for the first 48 hours, then surgical liquids.
6. Mineral oil (heavy), oz. ½ twice daily.
7. Wangensteen suction if necessary for vomiting.
8. Catheterize only if necessary.

Any additional intravenous fluids, saline solutions, blood or oxygen were of course to be by special order rather than routine. Catheterization was carried out whenever discomfort was at all severe.

The patients in this series range in age from thirteen to sixty years. Fourteen, or twenty-eight percent, were male; eighty-six percent female. As may be seen from Table I, eighty-eight percent of the cases were laparotomies, six percent hernioplasties, and six percent extensive vaginal surgery. No cases of any less severity were included.

TABLE I
DISTRIBUTION OF CASES

Type of Operation	Number of Cases	Percentage of Series
Appendectomy	27	54
Appendectomy, plus suspension, oophorectomy, etc.	12	24
Hysterectomy	5	10
Anterior colporrhaphy, perineorrhaphy, and trachelorrhaphy	3	6
Hernioplasty	3	6

TABLE II
CATHETERIZATIONS NECESSARY

Number of Catheterizations	Number of Cases	Percentage
None; voided spontaneously without discomfort	35	70
Catheterized once	7	14
Catheterized twice	3	6
Catheterized more than twice	4	8

(One patient had an indwelling catheter for three days, and thereafter voided spontaneously.)

TABLE III

TIME AT WHICH PATIENT RECEIVED LAST ANALGESIA

Needed no alcohol after first 24 hours	13 cases (26%)
Needed alcohol only during first 48 hours	29 cases (58%)
Needed alcohol only during first 72 hours	8 cases (16%)
Needed alcohol after first 72 hours	none

Three patients in the series were given morphine; one of these refused all infusions on the second postoperative day, and was given morphine gr. ¼ instead of the alcohol. The other two patients continued to complain of pain in spite of adequate amounts of alcohol, so the alcohol was discontinued and morphine gr. ¼, as often as necessary, substituted. Both of these patients continued to complain of pain even after the administration of morphine. In 94 percent of the cases, adequate analgesia was secured by the use of alcohol.

Postoperative complications were gratifyingly rare. Regular urinalyses were made, and in only one case was cystitis present, and this was in a patient who had cystitis prior to operation but in whom it became much worse subsequent to operation. In three cases a slight degree of distention was present during the first 48 hours after operation. Thirteen patients vomited during the first 24 hours; none vomited after the first 24 hours. In 40 cases the temperature did not exceed 100° F.; six others had maximum temperatures ranging from 102 to 103.6 degrees.

Table II shows the number of times catheterization was necessary. In one case an indwelling catheter was left in place for three days following operation; seventy percent of the patients did not require catheterization but were able to void spontaneously without discomfort. We believe that this plays a great part in the very low incidence of postoperative cystitis.

The entire series of patients received a total of 79,700 cc. of 10 percent alcohol solution, or an average of less than 1600 cc. per patient. Table III shows that over 25 percent of the patients were free from serious pain after the first 24 hours, and that none required any analgesic after the second postoperative day. In this connection it must be emphasized that no attempt was made to force the patient to stand pain; on the contrary, they were encouraged to ask for relief whenever they became uncomfortable to any appreciable degree.

Finally, there were only two patients in the entire series who complained of gas pains; in neither case did these last more than 24 hours; and there were six patients in the series whose demands for solid food in the first twenty-four hours were sufficiently vociferous for the nurse to record them on the chart. This should be sufficient commentary on the state of physical well-being of the patients in this series.

It would perhaps be well at this point to discuss a few technical points in connection with intravenous alcohol administration. We have found that it is necessary to vary the speed of administration with different patients. In general it is imperative that the alcohol be given very slowly, else the patients show all the signs of alcoholic intoxication. It is our custom to administer the alcohol and also 5 percent glucose solution simultaneously, using a Y connection, and allowing each to run at the rate of 60 drops a minute, or about 250 cc. per hour. If it is seen, after about 300 cc., that the patient is not obtaining the proper amount of relief, the speed is increased. In general, about 500 cc. are given at a time, but where adequate relief is obtained with less the infusion is discontinued, and where this did not seem to be enough we have not hesitated to use more, although it has never been necessary to use more than 1000 cc. at a time. It is easily seen, from the time required to give the usual dose, that more time is necessary to secure relief of pain with alcohol than with morphine. For that reason it is advisable to start the infusion as soon as the patient begins to feel pain of any degree, rather than to wait until the pain is severe. During the course of this series one of us (F. H. C., Jr.) underwent an appendectomy, and tried both alcohol and morphine in an effort to determine subjectively the relative analgesic effects of the two drugs. It was his experience, confirmed by observation in other patients, that just as much if not more relief was afforded by the alcohol as by morphine. Relief was much quicker with morphine but lasted a very great while longer with alcohol.

When the series described here was first undertaken it was intended that alternate cases be given alcohol and morphine. This policy was followed for twenty percent of

the series, but by that time the greater comfort and more rapid convalescence of the patients receiving alcohol had become so obvious that we did not feel justified in withholding its benefits from anyone so that at present all of our post-laparotomy patients are treated as described.

SUMMARY

1. A postoperative routine employing intravenous infusion of alcohol rather than morphine as an analgesic agent is described.

2. A series of 50 cases of major surgery, 47 abdominal and three vaginal, is presented.

3. In this series, complications, particularly distention and gas pains, were practically eliminated.

4. Results with the method described were so good that the writers have abandoned any other postoperative routine.

5. No contraindications to the use of intravenous alcohol were found except cystitis. However, we do not feel that nursing mothers should have alcohol, and therefore have not used the treatment on patients following cesarean section.

In closing, the writers wish to express appreciation to Dr. Alton Oschsner, who first described to one of us the use of intravenous alcohol for the relief of pain; to the Baxter Laboratories, whose material grant* made possible the research presented here; to the entire staff of the Sylacauga Infirmary-Drummond Fraser Hospital, and in particular to Miss Jessie Woodfin, R. N., and Mrs. Zilla McNeil, R. N., whose untiring and intelligent cooperation was largely responsible for the success of our undertaking.

Sulfathiazole in Venereal Disease—A comparison of four sulfonamide drugs currently used indicates that in acute and chronic gonorrhea, sulfathiazole is superior to sulfanilamide and sulfapyridine. It is more effective, better tolerated and there is less danger of toxic reaction. As regards dosage, it is thought that ambulant cases should continue to receive conservative amounts, but large doses are definitely preferred in those cases which can be closely observed and hospitalized. Although thorough laboratory tests may be made routinely, it is felt that intelligent clinical observation can lessen necessity for some of these to a great extent. Blood sulfathiazole levels in this series were interesting, but not of great significance. There were no changes in blood counts. —*Creecy and Switkes, South. M. J., Nov.* '42.

*The alcohol solutions used were prepared and furnished to us by the Baxter Laboratories.

THE VALUE OF CYSTOSCOPIES IN FEMALE UROLOGY

PRELIMINARY REPORT ON THE USE OF INTRACAINE AS A TOPICAL ANALGESIC

By

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In a discussion such as this, we are reminded of almost daily occurrences in which there are gynecologic symptoms caused by urologic pathology, and vice versa. Therefore, a pitfall awaits the gynecologist who is so dogmatic in his belief as to have arrived at a concise diagnosis before the urologic side of the question has been worked out and accounted for.

The urinary and genital tracts are very closely related embryologically. It is stated that one out of every three gynecologic patients has urinary symptoms, and personally I think this is a very conservative statement. Is it for the best interest of the patient that we send her to the urologist, or should we as good gynecologists make a urologic diagnosis? I feel we certainly should—not that we would take anything from the urologists, but there is such an overlapping of complaints that, unless a proper diagnosis is arrived at, many unnecessary colporrhaphies, suspensions and even hysterectomies will be done when the true pathology accounting for the pain or complaint is in the kidneys, ureters or urethra.

The kidneys are located retroperitoneally and rest on the quadratus lumborum muscles. The upper pole on the 11th and 12th thoracic vertebrae extends to the lower part of the 2nd or 3rd lumbar vertebrae, the right kidney usually being one inch lower than the left. Certainly there are many perfectly normal kidneys which are removed from this accepted normal position, possibly two or three inches. The capacity of the kidney pelvis varies from three to eight centimeters, but we think of the average as being five centimeters, with the ureters about three centimeters apart at the orifices on the trigone of the bladder. The interureteric ridge is a muscular bank between the ureteral orifices. The bladder capacity normally is from three to four hundred cubic centimeters. The urethra is two and one-half to three centimeters long.

The Skene's or urethral glands are in the urethra and should never be overlooked in the search for pathology about the lower urinary tract. A chronic urinary infection may refer symptoms to the gastro-intestinal tract and even the respiratory system. Doubtless many of us who do any female urology have patients who have run the gauntlet from the gynecologist to the general surgeon. When the gastro-enterologist, in his search for relief from gastric symptoms, such as are manifested in belching, fullness in the epigastrium, gas on the bowels and general discomfort, has arrived at a proper diagnosis, he will sometimes find a strictured, kinked or improperly draining ureter accounting for the symptoms. I have patients who often develop headaches which will last for a week unless a cystoscopy is done. With the passing of ureteral catheters, I have seen these headaches disappear within ten minutes after the ureter is opened. I would not have you believe that all "ails" are due to obstruction or urinary tract disorders, but we should always be on the alert for a correct diagnosis.

Frequent micturition is a very common symptom with ureteral disturbances since the nerve supply to the ureter is related to the bladder, and the bladder itself being very closely associated might cause this trouble. Urinalysis should be done on all gynecologic patients studied, and the presence of blood cells, red or white, should be looked on as being abnormal, and this found on a repeated examination should be warning sufficient that we give these patients complete urinary tract study. Just here I should like to emphasize that a negative diagnosis is not justified if symptoms point to the urinary tract and we do not find blood on a catherized bladder specimen the first time. I have many times cystoscoped a patient who was having clinical symptoms but did not show much blood or pus in the bladder specimen, but on passing the ureteral catheters there was an abundance of pus and pathology found about the ureters and kidneys.

All major surgery contemplated on patients should be properly looked at from a urologic standpoint if there are symptoms referable to this system. I think that the urologist is justified in looking on gynecologists as being a little slipshod in doing major surgery when we have not properly diagnosed the urinary system. If we will do this by cystoscopy, ureteral catheterization, retrograde and intravenous pyelograms, where indicated, we will find the source of many complaints before doing unnecessary, radical surgery.

Intravenous pyelography has added a great deal to better diagnosis of the urinary tract, and it has a very definite place in a group of young patients in which there is difficulty in cystoscoping, and in an older group in which one would have a hesitancy in doing a cystoscopic examination. Whenever practical and generally speaking, I feel that the retrograde type of pyelography should not be overlooked because it certainly gives information that cannot be obtained from intravenous pyelography alone.

The x-ray or roentgenography has certainly added a great deal to the diagnosis of urinary tract infections. We are able to determine the exact condition, such as urinary calculi, hydronephrosis, pyonephrosis, frequently the hypernephromas, the diseased kidney pelvis, the dilated and strictured ureters and often the double kidney or double ureter. In fact so many of the conditions we have previously been at a loss to know what existed, we are now able to see.

In studying the bladder, it is well for us to know the normal as well as the abnormal. In fact many of our errors in diagnosis, I think, are due to our inability to evaluate the normal from the abnormal.

The study of the female urethra should be of a great deal more concern than most think. Many of the cases which are treated for salpingitis, parametritis, cystitis, etc., are in reality a chronic urethritis. I think that many of these cases are gonorrheal in origin, but there is a large part of them of a simple or nonspecific origin, and after a long process there is constriction or stricture formation of the urethra and occasionally suburethral abscess. We might say that strictures of the urethra are much more common than we think. The normal female urethra should admit about a twenty-nine French sound (twenty-three to twenty-eight being normal). Naturally there is a certain amount of contraction of the urethra in elderly people. We notice this particularly in doing cystoscopic work, where we pass a ♯24 cystoscope. In the average young person it passes without any trouble, but in elderly people there is more difficulty in passing.

There are fewer urethral obstructions in the female than in the male. This can be well accounted for, because the female urethra is shorter and any infection present could be cared for with less danger of stricture formation.

Postoperative care of the bladder is something which we frequently overlook, and, as a result, there are many cases of urinary retention causing a distention which leaves trouble. Naturally we should be careful in regard to infections being carried into the bladder on postoperative catherization of patients, and it is necessary for us to choose the lesser of two evils; that is, to catherize under proper antiseptic conditions rather than allow overdistention. Urinary fistulae are often found following injury at childbirth, operative injury to the bladder or ureter, from some malignant sloughing, and possibly from radiation.

There are a great many more ureters ligated or damaged at the time of an operation than we know about, and as long as there is only one ligated and the other kidney is functioning perfectly well we never know that this has happened. When one has been injured by a suture or cut, and a uretero-abdominal fistula develops later, we know that damage has been done, and the same way with injury to the bladder. If there is a leakage of urine, we are conscious of injury having been done.

Now the care of these ureters brings a real surgically technical problem in some cases. Just now I have a case, P. H., colored female, age 41, No. 152348, Hillman Hospital, who was operated on October 4, 1941 for the removal of an ovarian cyst, which was technically easy. The patient was discharged from the hospital within about two weeks, and her condition seemed to be satisfactory. She was readmitted to the hospital about seven weeks after being discharged with a large tumor mass in her abdomen and which I thought was another ovarian cyst. On operating, November 22, 1941, for the second time, I found that the whole abdomen was filled with a tumor mass, the orgin of which I was unable to determine. It was opened and seemed to be a large cyst with granular masses scattered all about within the cavity. This mass was drained, and being unable to remove the walls I put a large pack in the sack and marsupialized the edges to the abdominal wound. I suspected that this was of retroperitoneal origin. The patient had a rather stormy two or three days following operation and then ran an even course. In a few days it was recognized that urine was coming through the abdominal wound. After about three weeks, the patient was carried back to the operating room and I was able to go in, for by this time the tissues had shrunk and I was able to find the landmarks. I found the ureter had been cut entirely across about ten centimeters from the bladder, and the upper end of the lower segment had closed over. With the use of a catheter, passed from the bladder, I was able to locate both ends, and at the point of the fistulous opening an anastomosis was done over a ureteral catheter. The patient seemed to be doing fine, and, on the fourth day, drainage had entirely stopped from the abdominal drain and I was feeling quite good. On going into the ward on the fifth day, I found the patient had pulled the catheter out and the fistulous drainage was about the same as before.

On the last operation, January 27, 1942, the abdomen was opened again through the old scar tissue. I was unable to perform another anastomosis and pass the catheter through below. The left ureter was isolated midway to the kidney and tied in two places with ♯D black silk. This was done to stop the function of the kidney. Within two or three days I noticed that there was still some urine passing though, this being confirmed by intravenous injection of methylene blue. However, the patient showed improvement, and after a few days was more comfortable, and the urinary discharge became much less. On February 16, 1942, the patient had marked swelling of the left leg. She had developed thrombophlebitis, which was treated by sympathetic block using novocaine from two to four-day intervals. The patient was discharged on March 4, 1942 with considerably less drainage. She came to the Female Urology Clinic later, and the drainage had entirely checked and the wound well healed. I did a cystoscopy and was able to pass a catheter 10 cm. on the left side, getting good drainage through the ureteral catheter.

This case is mentioned to emphasize that the injury to the ureter was done on the first operation, and there had been no external urinary fistulous drainage. This had in reality formed a "retroperitoneal urinary cyst" and the kidney continued to function. Naturally we felt, after we had operated, that the

injury had been done at the second operation, but on the third operation we were definitely sure that it was at the first operation. Had this ureter been ligated sufficiently and not cut across, we would have probably known nothing of it later.

I should like to emphasize the urinary tract infections which are seen in young children and old women. The pediatrician often sees pyelitis in young children. I have one patient who was seen by a pediatrician for pyelitis when she was three months of age. She came to me at about seventeen years of age with a dilated kidney pelvis in the left of about sixty cubic centimeters and with marked stricture of the ureter. After treating her for a few months, she disappeared for about two years. She came back recently with the kidney pelvis still further dilated and the ureter dilated to almost two and one-half centimeters in diameter nearly all of the distance to the bladder. This patient got one treatment, and I advised her to return in two weeks, but she has disappeared again and probably will not get further dilatation. This is what happens to untreated cases which are seen in early life.

Of the group of elderly women, we see many with cystocele, secondary to a lacerated perineum and other birth injuries, who have had cystitis and chronic pyelitis over a period of years and who have developed trabeculated bladders which cause them more or less trouble every day. They have the sensation that "everything is falling out." It is interesting how nicely these people respond and can stand cystoscopies. I have one patient 88 years of age who has been subjected to the procedure. In this group there are many strictures of the ureters within the first five or seven centimeters from the bladder orifice of the ureter, a good percent within the bladder wall.

There is another group which I feel should be mentioned, those with pyelitis of pregnancy. Many of these patients have strictures, who have probably been perfectly comfortable until pregnancy takes place. During the process of pregnancy, the strictures probably do not develop proportionately, and they cause acute flare-ups of pyelitis, the infection possibly being there all along. Personally, I think this would account for trouble more than the pressure of the baby's head on the ureters. It is estimated that five to six percent of all pregnancy cases develop pyelitis and thirty to forty percent of this group do not go to full term. The Bacillus coli predominates in these causative factors. The condition is usually bilateral but may be unilateral. It is thought that if the non-protein nitrogen remains over fifty in cases of pregnancy and shows no relief, an abortion should be done and contraceptive advice be given to the patient later. I think this is good advice but with proper cystoscopic treatments and watch care a great many of these will go through pregnancy and deliver normal babies.

Tuberculosis of the urinary tract doubtless is more frequent than we are prone to think for it is often a secondary infection to tuberculosis of the lung. As to the sex, it is about the same in the male as in the female. Braasch[1] found that 30% with renal tuberculosis also had pulmonary tuberculosis, and Caulk found 50%. Deposits of calcium in a tuberculous kidney are often seen.

In the training of every resident in gynecology and obstetrics who plans to follow this as a specialty, provision should be made for the learning of at least the technique of doing cystoscopies and to learn to tell the normal from the abnormal bladder. In the consideration of calculi of the kidneys and ureters, and the etiology, the question of the change in colloid, urinary salt balance and infection are factors in the information. Disturbed metabolism has often been thought of where there is hyperparathyroidism present. Diet doubtless is one factor.

As to sex, Mayo urologists found stones in 68% in the male to 32% in the female. In a discussion of urinary tract infections, strictures, Dr. Guy Hunner has raised the question in a new field, that is the relation of pyelitis to nephritis as seen in a certain percentage of hypertension cases. Doubtless all who are doing any female urology are seeing occasional cases who have both nephritis and pyelitis, and who are markedly improved by the proper urinary tract treatment, where there are strictures, kinks, etc. If these are straightened out and drainage of the kidney pelves is kept more normal, the nephritis improves.

I have two patients at present, one who was referred to me about nine years ago with nephritis and seemed to be almost on her "last legs." On cystoscopic examination, I found her to have strictures of both ureters. By keeping up proper drainage, she is

quite comfortable and the hypertension from nephritis has been kept pretty well in a comfortable range, and she has been able to go along very happily. A second patient who has been coming to me for about three years had been almost bedridden on account of hypertension. She has been made quite comfortable both as to the hypertension and pain with the cystoscopic treatments at rather long intervals.

USE OF INTRACAINE

In discussing the question of cystoscopic treatment for patients, I am reminded of complaints which some patients make in regard to the discomfort in giving the treatment. Naturally there has been some hunting about for something that would alleviate discomfort from the bladder. Cocaine was a drug available to give some relief in the earlier days, but due to its toxic affect on some patients it has been largely discontinued. Then came novocaine, a similar preparation, but one that never gave satisfaction as a topical anesthetic. Nupercaine, 1:500 solution, has seemed very satisfactory, but the different drug manufacturers have endeavored to get something that would prove even more satisfactory.

Recently Squibb has furnished intracaine for research purposes, and I have been using it in the bladder before the cystoscopy is begun and after it is completed. I am reporting 30 cases in which I have used this preparation beginning first with a 1% aqueous solution instilling 5 cc. in the bladder ten minutes before the cystoscopy, and after lavaging the kidneys installing 2 cc. in each kidney and 5 cc. in the bladder. After trying the 1% solution for a while, I stepped up to a 1½% solution as above stated, which has been giving very satisfactory results. I have used this on patients without their knowledge of it and then would subsequently leave it off, and they would notice the difference at once.

I have had some of the solution in oil which I instilled in the bladder after the cystoscopy was completed hoping to get a prolonged anesthesia or analgesia, but on account of the constant functioning of the kidneys diluting the oily solution, I have not seen any improvement of the oil over the aqueous solution. I have seen no ill effects in the use of intracaine and so far feel that it is a drug that might be added to the list of those agents which are used for surface anesthesia and be of great value to be used in the bladder in doing cystoscopies.

The following are reports of the cases in which we have used intracaine:

REPORT OF CASES

(1) Mrs. S. Age 43. Married. Occupation: Housewife. Chief Complaint: Backache and pain in sides. Diagnosis: 1. Anemia, 2. Hypothyroidism, 3. Cystitis, 4. Pyelitis bilateral, 5. Hypotension, 6. Vaginitis, 7. Perineum lacerated 2nd degree, 8. Dyspareunia. Comment: Patient had had a number of cystoscopies before without the use of intracaine. On May 29, 1941, she had her first cystoscopy with 26 cc. of 1% intracaine used as a surface anesthesia in the bladder. Patient was free of pain about 15 minutes after the cystoscopy was finished. Since this cystoscopy, she had on July 24, 1941, 14 cc. of 1½% intracaine; August 6, 1941, 14 cc.; August 22, 1941, 14 cc.; and on September 29, 1941, 14 cc. as a surface anesthestic. After each cystoscopy there was less pain than without intracaine.

(2) Mrs. E. Age 70. Widowed. Occupation: None. Chief Complaint: Rheumatism and pain in kidney region. Diagnosis: 1. Stricture of both ureters, 2. Pyelitis bilateral, 3. Cystitis. Comment: Patient has had cystoscopies over a period of years without the use of intracaine. On May 30, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used as a surface anesthesia. There was less reaction with this than with former cystoscopies without intracaine. Since this she had cystoscopies on June 9, 1941, 14 cc. of 1½% intracaine; July 14, 1941, 14 cc.; July 18, 1941, 14 cc.; August 4, 1941, 14 cc.; August 15, 1941, 14 cc.; September 19, 1941, 14 cc.; September 26, 1941, 14 cc.; October 6, 1941, 14 cc.; and on October 17, 1941, 14 cc. being used as a surface anesthetic.

(3) Mrs. N. Age 61. Widowed. Occupation: House work. Chief Complaint: Bladder irritation. Diagnosis: 1. Pyelitis, 2. Cystitis, 3. Vaginitis, 4. Stricture of right ureter. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On May 30, 1941, she had her first cystoscopy in which 14 cc. of 1½% intracaine was used as a surface anesthetic. On September 12, 1941, she had another cystoscopy in which 14 cc. of 1½% intracaine was used. There was less reaction than before.

(4) Mrs. R. Age 42. Married. Occupation: Housewife. Chief complaint: Pain in kidney region. Diagnosis: 1. Hypotension, 2. Neurasthenia, 3. Endocrine deficiency, 4. Pyelitis bilateral, 5. Anemia, 6. Endocervicitis, 7. Chronic constipation. Comment: Patient had had a number of cystoscopies without the use of intracaine. On July 9, 1941, she had her first cystoscopy, with 14 cc. of 1½% intracaine used as a surface anesthetic. There was less reaction after this cystoscopy than had been with former ones without intracaine. Since this she has had cystoscopies on August 4, 1941, 14 cc. of 1½% intracaine; August 18, 1941, 14 cc.; October 6, 1941, 14 cc.; and October 14, 1941, 14 cc. being used for surface anesthesia. There was less reaction after each of these than there had been previously.

(5) Mrs. R. Age 72. Widowed. Occupation: House work. Chief complaint: Bladder irritation and pain in sides. Diagnosis: 1. Cystitis, 2. Pyelitis bilateral, 3. Hemorrhoids. Patient had had a number of cystoscopies without the use of intracaine. On June 2, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used as a surface anesthetic. There was less reaction after this cystoscopy than there had been with former ones without intracaine. Since this she has had, on July 8, 1941, 14 cc. of 1½% intracaine; August 21, 1941, 14 cc.; and October 7, 1941, 14 cc. There was less reaction after each of these than there had been with former ones without intracaine.

(6) Mrs. J. Age 44. Married. Occupation: Secretary. Chief complaint: Bladder irritation. Diagnosis: 1. Menopause, 2. Lacerated perineum 2nd degree, 3. Cystocele, 4. Stenosis of cervix, 5. Hypothyroidism, 6. Ventral hernia. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On June 2, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine for surface anesthesia. There was less reaction after this than there had been with former ones without the use of intracaine. Since this she has had on June 23, 1941, 14 cc. of 1½% intracaine; August 5, 1941, 14 cc.; September 10, 1941, 14 cc.; and on October 14, 1941, 14 cc. There was less reaction after each of these than there had been with former cystoscopies.

(7) Miss S. Age 31. Single. Occupation: Secretary. Chief complaint: Pain in kidney region and right side. Diagnosis: 1. Salpingitis of right side, 2. Cystitis, 3. Pyelitis and stricture of right ureter, 4. Neurasthenia, 5. Neuro-circulatory asthenia. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On June 14, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used for surface anesthesia. There was less reaction after this than there had been with former ones without the use of intracaine. Since this she has had on July 12, 1941, 14 cc. of 1½% intracaine; August 9, 1941, 14 cc.; and on October 10, 1941, 14 cc. for surface anesthesia. There was less reaction after each of these than there had been previously.

(8) Mrs. L. Age 75. Widowed. Occupation: House work. Chief complaint: Pain in kidney region. Diagnosis: 1. Hypertension, 2. Obesity, 3. Pyelitis, 4. Lacerated perineum 2nd degree, 5. Endocervicitis—old lacerated cervix, 6. Cystocele, 7. Rectocele. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On July 8, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine for surface anesthesia. There was less reaction after this than there had been with former ones without the use of intracaine. Since this she was given on July 22, 1941, 14 cc. of 1½% intracaine; August 5, 1941, 14 cc.; and on October 7, 1941, 14 cc. There was less reaction after each of these than there had been with previous cystoscopies without the use of intracaine.

(9) Mrs. M. Age 37. Married. Occupation: Housewife. Chief complaint: Pain in kidney region and hemorrhoids. Diagnosis: 1. Pyelitis, 2. Hemorrhoids, 3. Chronic constipation. Comment: Patient had had cystoscopies before but without the use of intracaine. On June 7, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used for surface anesthesia. There was less reaction with this than there had been with former ones without the use of intracaine. Since this she received on June 12, 1941, 14 cc. of 1½% intracaine; August 23, 1941, 14 cc.; and on October 18, 1941, 14 cc. There was less reaction after each of these than there had been formerly.

(10) Mrs. C. Age 29. Married. Occupation: Housewife. Chief complaint: Pain in back and abdomen. Diagnosis: 1. Pyelitis, 2. Infantile uterus, 3. Dysmenorrhea, 4. Endocrine imbalance, 5. Anemia, 6. Migraine headaches, 7. Hypoglycemia, 8. Parametritis. Comment: Patient had had cystoscopies before but without the use of intracaine. On July 12, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used as a surface anesthetic. There was less reaction with this than there had been with former ones without the use of intracaine. Since this she has had on August 22, 1941, 14 cc. of 1½% intracaine and on October 7, 1941, 14 cc. for surface anesthesia. There was less reaction after each of these than there had been on prior occasions.

(11) Miss D. Age 23. Single. Occupation: Secretary. Chief complaint: Pain in right side. Diagnosis: 1. Pyelitis bilateral, 2. Stricture of ureters. Comment: Patient had never had cystoscopies before July 15, 1941 when 14 cc. of 1½% intracaine was used for surface anesthesia. Since this she has had on July 22, 1941, 14 cc. of 1½% intracaine; July 29, 1941, 14 cc.; August 12, 1941, 14 cc.; August 22, 1941, 14 cc.; September 17, 1941, 14 cc.; and on October 8, 1941, 14 cc.

(12) Mrs. F. Age 41. Married. Occupation: Housewife. Chief complaint: Pain in left side. Diagnosis: 1. Pyelitis and stricture of left ureter, 2. Lacerated perineum 2nd degree, 3. Lacerated, infected, greatly enlarged cervix, erosion of posterior lip, 4. Retroverted fundus, 5. Hard mass in left wall of vagina, 6. Neurasthenia. Comment: Patient had first cystoscopy on June 6, 1941 with 14 cc. of 1½% intracaine for a surface anesthetic.

(13) Mrs. L. Age 32. Married. Occupation: Housewife. Chief complaint: Pain in back and right side. Diagnosis: 1. Anemia, 2. Pyelitis bilateral, 3. Stricture of right ureter, 4. Irregular menstruation, 5. Endocrine imbalance. Comment: Patient had had cystoscopies before but without the use of intracaine. On July 9, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine for surface anesthesia. There was less reaction after this than there had been with former ones without the use of intracaine. Since this she has had on August 6, 1941, 14 cc. of 1½% intracaine, and on October 8, 1941, 14 cc. There was less reaction after each of these than there had been with previous cystoscopies without the use of intracaine.

(14) Mrs. M. Age 45. Married. Occupation: Housewife. Chief complaint: Pain in back and abdomen. Diagnosis: 1. Pyelitis bilateral. Comment. Patient had never had a cystoscopy before September 2, 1941 when she had her first. Fourteen cc. of 1½% intracaine was used for surface anesthesia.

(15) Miss D. Age 38. Single. Occupation. Stenographic work. Chief complaint: Uterine bleeding and pain in kidney region. Diagnosis: 1. Cystitis, 2. Pyelitis, 3. Uterine bleeding. Comment: Patient had had cystoscopies over a period of years without intracaine. On June 13, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used as a surface anesthetic. There was less reaction after this than there had been with previous ones without the use of intracaine. Since this she has had on June 25, 1941, 14 cc. of 1½% intracaine, and on October 6, 1941, 14 cc. for surface anesthesia. There was less reaction after each of these than there had been with previous cystoscopies.

(16) Mrs. J. Age 21. Married. Occupation: Housewife. Chief complaint: Backache. Diagnosis: 1. Pyelitis bilateral, 2. Cystitis. Comment: Patient had had a number of cystoscopies without the use of intracaine. On May 29, 1941, she had her first cystoscopy with 26 cc. of 1% intracaine used as a surface anesthetic. There was less reaction after this than there had been with former ones without the use of intracaine. Since this she has had on June 16, 1941, 14 cc. of 1½% intracaine; July 17, 1941, 14 cc., and on August 27, 1941, 14 cc. There was less reaction after each of these than there had been with previous cystoscopies without the use of intracaine.

(17) Mrs. D. Age 79. Married. Occupation: Housewife. Chief complaint: Pain in back and abdomen. Diagnosis: 1. Stricture of both ureters. 2. Lacerated perineum 2nd degree, 3. Rectocele 2nd degree, 4. Cystocele 2nd degree, 5. Enlarged and slightly eroded cervix. Comment: Patient had had cystoscopies before but without the use of intracaine. On June 13, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine for surface anesthesia. There was less reaction after this than there had been with former ones. Since this she has had on September 29, 1941, 14 cc. and on October 6, 1941, 14 cc. of 1½% intracaine as a surface anesthetic. There was less reaction after each of these than there had been with previous cystoscopies without the use of intracaine.

(18) Miss G. Age 49. Single. Occupation: Teacher. Chief complaint: Pain in right side. Diagnosis: 1. Pyelitis bilateral, 2. Slight urethral caruncle. On June 25, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine.

(19) Miss B. Age 24. Single. Occupation: Stenographic work. Chief complaint: Inflammation and soreness of joints and muscles. Diagnosis: 1. Rheumatic fever, 2. Pyelitis bilateral, 3. Stricture of right ureter, 4. Anemia, secondary, 5. Low basal metabolism. Comment: Patient had cystoscopies over a period of years without the use of intracaine. On August 23, 1941, she had her first cystoscopy with 14 cc. of a 1½% solution of the anesthetic. There was less reaction after this than there had been with former ones without the use of intracaine. Since this she has had on September 5th and September 26, 1941 14 cc. of 1½% intracaine for surface anesthesia. There was less reaction after each of these than there had been with previous cystoscopies without the use of intracaine.

(20) Mrs. G. Age 69. Married. Occupation: Housewife. Chief complaint: Pain in right side and tenderness in bladder region. Diagnosis: 1. Cystitis, 2. Pyelitis. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On October 16, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine. There was less reaction after this than there had been with previous cystoscopies.

(21) Mrs. G. Age 87. Widowed. Occupation: Housework. Chief complaint: Neuritis, diarrhea, and pain in back. Diagnosis: 1. Cystocele, 2. Rectocele, 3. Pyelitis, 4. Cystitis. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On July 28, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine. There was less reaction after this than there had been with other cystoscopies.

(22) Mrs. G. Age 63. Widowed. Occupation: House work. Chief complaint: Bladder irritation. Diagnosis: 1. Cystitis, 2. Pyelitis bilateral, 3. Stricture of ureters, 4. Chronic constipation. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On September 26, 1941, she had her first cystoscopy with 14 cc. of a 1½% solution of the anesthetic. Reaction was less than before.

(23) Mrs. E. Age 54. Married. Occupation: Housewife. Chief compaint: Pain in right kidney region. Diagnosis: 1. Pyelitis of right kidney, 2. Cystitis, 3. B. M. R. minus 10, 4. Anemia, secondary. Comment: Patient had had cystoscopies over a period of years wihout the use of intracaine. On June 5, 1941, she had her first cystoscopy with 14 cc of 1½% intracaine used as a surface anesthetic. There was less reaction after this than there had been with former cystoscopies without the use of intracaine. Since this she has had on July 17, 1941, 14 cc. of 1½% intracaine; September 3, 1941, 14 cc.; and on October 6, 1941, 14 cc., with less reaction after each than there had been without the use of intracaine.

(24) Mrs. B. Age 43. Married. Occupation: Housewife. Chief complaint: 1. Menorrhagia and tenderness of the bladder. Diagnosis: 1. Menorrhagia, 2. Cystitis. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On June 16, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used for surface anesthesia. Reaction was less than before. Since this she had on July 17, 1941, 14 cc. of 1½% intracaine used as a surface anesthetic, and again with less reaction than with previous cystoscopies without the use of intracaine.

(25) Mrs. L. Age 50. Married. Occupation: Housewife. Chief complaint: Bladder irritation and pain in right side. Diagnosis: 1. Pyelitis, 2. Cystitis, 3. Cancer of cervix, 4. Stricture of right ureter. Comment: Patient had had cystoscopies before but without the use of intracaine. On June 3, 1941, she had her first cystoscopy with 25 cc. of 1% intracaine. There was less reaction than previously. Since this she had on August 9, 1941, 14 cc. of the anesthetic, with less reaction than there had been previously without its use.

(26) Miss D. Age 21. Single. Occupation: Student. Chief complaint: Pain in sides. Diagnosis: 1. Cystitis, 2. Pyelitis, 3. Stricture right ureter. Comment: Patient had had cystoscopies over a period of years without the use of intra-

caine. On May 27, 1941, she had her first cystoscopy with 30 cc. of 1% intracaine. Since this she had on September 4, 1941, 14 cc. of 1½% intracaine for surface anesthesia, and in both instances there was less reaction than there had been with previous cystoscopies.

(27) Mrs. D. Age 56. Married. Occupation: Housewife. Chief complaint: Pain in sides. Diagnosis: 1. Cystitis, 2. Pyelitis, 3. Stricture left ureter. Comment: Patient had had cystoscopies over a period of years. On June 6, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine. There was less reaction after this cystoscopy than there had been with previous ones without the use of intracaine. Since this she had on July 5, 1941, 14 cc. of intracaine; July 24, 1941, 14 cc.; September 25, 1941, 14 cc.; October 1, 1941, 14 cc.; October 15, 1941, 14 cc., and on October 23, 1941, 14 cc. There was less reaction after each of these than there had been with previous cystoscopies.

(28) Miss D. Age 16. Single. Occupation: Student. Chief complaint: Pain in sides. Diagnosis: 1. Cystitis, 2. Pyelitis, 3. Stricture of ureters. Comment: Patient had had cystoscopies over a period of years. On June 18, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used for surface anesthesia. The reaction was less than formerly. Since this she had, on July 2, 1941, 14 cc. of 1½% intracaine. and on September 13, 1941, 14 cc. of 1½% intracaine used as a surface anesthetic. There was less reaction than with previous ones without the use of intracaine.

(29) Mrs. R. Age 50. Married. Occupation: Housewife. Chief complaint: Pain in side and abdomen. Diagnosis: 1. Stricture of urethra, 2. Cystitis, 3. Strictures of ureters, 4. Pyelitis bilateral. Comment: Patient had cystoscopies over a period of years without the use of intracaine. On June 17, 1941, she had her first cystoscopy with intracaine. Since this she has had on July 28, 1941, 14 cc. of a 1½% solution of intracaine for surface anesthesia. There was less reaction than with previous cystoscopies.

(30) Mrs. S. Age 45. Married. Occupation: Housewife. Chief complaint: Pain in sides. Diagnosis: 1. Cystitis, 2. Stricture of ureters, 3. Pyelitis. Comment: Patient had had cystoscopies over a period of years without the use of intracaine. On August 10, 1941, she had her first cystoscopy with 14 cc. of 1½% intracaine used as a surface anesthetic. There was less reaction after this than there had been with previous cystoscopies without the use of intracaine. Since this she had, on August 16, 1941, 14 cc. of 1½% intracaine. There was also less reaction after this than there had been with previous cystoscopies without the use of intracaine.

CONCLUSIONS

1. Many gynecologic symptoms are due to urologic pathology, and vice versa.

2. The urinary and genital tracts are closely related embryologically.

3. It is not for the best interest of the patient for the urologist seeing her first to refer her to the gynecologist until he has eliminated urologic pathology or made a diagnosis if there is questionable urologic pathology giving gynecologic symptoms.

4. The kidneys being located retroperitoneally with the ureters give referred pain to other parts.

5. Many cases of pyelitis or stricture of the ureters will give symptoms referable to the gastro-intestinal tract, causing indigestion, gas on the stomach and pressure on the diaphragm, resulting in cardiac disturbance which is relieved only on dilating the strictured ureters.

6. Persistent headaches, nausea or vomiting, backaches and gastric distress caused from the closing or kink of the ureters can be relieved by passing catheters to the kidneys. I have a patient who can be relieved of persistent headaches which she has had for days, before getting off of the table after having a cystoscopy or while a kidney lavage is being done.

7. Cystoscopies should not be looked on as a "cure-all for all ails" but should not be overlooked in diagnosis and therapy.

8. Frequent micturition is often a first symptom of urinary tract infection.

9. A large number of pains thought to be in the uterus, ovaries and tubes and appendix originate in the urinary tract.

10. Never give a negative diagnosis of urinary tract infection because you do not find blood or pus in the urine on a voided or catherized bladder specimen. Many will have strictured ureters or other pathology in the urinary tract.

11. All major surgery contemplated about the ovaries, tubes, appendix, etc., of obscure diagnosis should have a urinary tract study first.

12. Many more accidental ligations of the ureters at operations are done than are known about where only one ureter is ligated.

13. The use of intracaine in the bladder as an analgesic for cystoscopies in more than thirty cases studied is proving very satisfactory. In the group, most had had previous cystoscopies without the use of intracaine and are now being cystoscoped with its use.

REFERENCE

Te Linde, Richard W. and Carl Henry Davis: Female Urology, 1933, pp. 120 and 134.

*I wish to express appreciation to E. R. Squibb and Sons for furnishing the intracaine that is being used in this study.

FRACTURE OF THE UPPER HUMERUS*

ADVANCES IN TREATMENT

By

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Baton Rouge, La.

I want to call your attention to a simple, efficient, ambulatory, and almost universally applicable means of treating fractures of the upper humerus; namely, by means of a hanging plaster cast.

Since Dr. J. A. Caldwell[1,2] of Cincinnati General Hospital in 1933 first advocated the treatment of some fractures of the shaft of the humerus by means of a hanging plaster cast or the so-called hanging cast, he and others have extended the use of this hanging cast to nearly all fractures of the humerus above the condyles.

In his hands there has been a high proportion of good results with the least annoyance and discomfort to the patient. He reports 108 cases, with good union and function in 85, good function in 6, poor function in 3, non-union in 1, delayed union in 4, and results not ascertainable in 9.

LaFerte' and Nutter[3] of the Detroit Receiving Hospital have been very successful in treating fractures of the shaft and of the neck of the humerus by the hanging plaster cast.

They report 119 consecutive successful cases. Their series includes several compound fractures, all of which except two were placed in the hanging cast at once.

The ages of their patients ranged from 8 to 85. They consider as unsuitable for treatment by the hanging cast method those fractures of the humerus that involve the condyles or supracondylar area, badly comminuted fractures of the head with poor position of the fragments, those of head and neck associated with dislocation at the shoulder joint, and fractures of the greater tuberosity with displacement.

Griswold, Hutcheson and Strode[4] also report on over 300 cases in Louisville City Hospital since 1933 with eminently satisfactory results. They used it almost routinely in all patients who could be ambulatory. In fact the only fractures which they excepted from this treatment were extensive supracondylar fractures in children and extensive compound fractures. These they advocate treating by skeletal traction until danger of severe infection is past, and then they put the arm in a hanging cast. They also point out that the rare exception to the use of this hanging cast is a fracture which has the tendon of the longhead of the biceps ruptured. In this case operative reduction must be done.

I have used this method exclusively during the past 5 years in fractures of the humerus and now have a small consecutive series of 19 cases from my private practice of fractures of the head and upper shaft. The ages of these cases range from 2 years to 74 years. Three were compound; 12 had excellent anatomic and functional results. Three more had excellent functional results; 3 had good functional results, and one uncooperative patient had only what was classed as a fair functional result with shoulder abduction limited to slightly less than 90 degrees. All of these patients were ambulatory at once or within 3 days after the injury.

Reduction under local procaine anesthesia was done in 7 of these cases, 2 under general, and the remainder under morphine sedation. In my hands local anesthesia has been used almost altogether for the past 7 years in the reduction of all fractures. Nearly all my cases were treated in the office.

Now briefly the technical details of the application of this hanging cast: this is a procedure that may be done in the office, under local anesthesia as a rule.

Compound fractures are debrided thoroughly; sulphathiazole is dusted from a salt cellar into the wound which is then closed and treated as a simple fracture. The patient sits on a stool and the hanging plaster cast is applied to encase the upper extremity from its upper third to the wrist. The elbow is held in 90-degree flexion; the forearm in mid-pronation with the thumb up. Padding

*Read before the Association in annual session, April 22, 1942.

1. Caldwell, J. A.: Ann. Surg. 97: 161, 1933.

2. Caldwell, J. A.: Treatment of Fracture of Shaft of the Humerus by Hanging Cast, Surg., Gynec. and Obst. 70: 421-425, 1940.

3. LaFerte' and Nutter: The Treatment of Fractures of the Humerus by Means of a Hanging Plaster Cast, Ann. Surg. 114: 919, 1941.

4. Griswold, Hutcheson and Strode: Fractures of the Humerus Treated by the Hanging Cast, South. M. J. 34: 777, 1941.

may or may not be used, but always the wrist just above the ulna styloid should be padded. Usually a circular cast is applied, but I have modified this method in all my private cases by using anterior and posterior splints. This permits removal for inspection, and for physiotherapy and other adjustments. A sling around the neck to the wrist suspends the cast.

In very fat women with large breasts it is better to put the elbow in 60-degree flexion. The important point is to apply the cast so that the humerus hangs vertically with the ground, since this tends to correct all deformity and angulation. The sling is securely attached to the cast at the wrist by means of a plaster loop or other fast means. When using anterior and posterior splints I simply pin it with a safety pin to the outside bandage. The farther toward the hand the sling is attached the greater the pull of the cast will be on the humerus. The sling can be secured either slightly medialward or lateralward to the midline of the upper surface of the encasement to help correct inward or outward angulation of the lower fragment.

Laferte' and Nutter give further direction for applying the cast as follows:

"Lateral angulation can be readily corrected by a wedge made of felt, plaster, sponge rubber, or of sheet cotton covered with plaster, placed on the inner side of the elbow. In some cases of fractures of the humeral neck with medial bowing, we have found a roll of sponge rubber, two and one-half inches in diameter, placed high in the axilla and fixed to the encasement. very effective in correcting this deformity.

"The plaster bandage is usually applied after roentgenologic examination. However, when the patient's general condition is not good, or the fragments are found to be in an unsatisfactory position for this method of treatment, these difficulties are first rectified before the encasement is applied.

"The patient is instructed after application of the hanging plaster cast to allow the arm to swing freely at his side at all times. Many patients have an inclination to rest the elbow on the arm of a chair or upon some convenient object when sitting. This is contrary to the main purpose of the encasement which is traction by gravity. This difficulty is greatly lessened when the patient is made to realize the principle of this method of treatment, and that his chances for a good result depend wholly upon his full cooperation.

"Some patients find it more comfortable to sleep sitting in a chair for the first week or so; others use a back rest which permits the arm to swing as free as when in the erect position. The remainder sleep satisfactorily with upper arm either resting on a pillow or with the whole arm placed across the chest.

"Active motion of the wrist and hand has been encouraged from the beginning. The patient is instructed to lean forward and to let the shoulder swing in circular motions several times a day. These passive movements are sufficient to preserve considerable free motion at the shoulder joint until active motion can be safely instituted. After a few days, active motion is allowed in the anteroposterior plane. Whenever moderate callus formation can be demonstrated roentgenologically, active abduction is encouraged.

"Roentgenograms are taken two or three days after application of the encasement to determine the position of the fragments, and, if necessary, adjustments are then made. From then on until union is adequate to allow removal of the encasement, check-up roentgenograms are taken at two-week intervals."

The average length of treatment in the plaster cast in my own and in an average of other series of cases was approximately six weeks.

CONCLUSIONS

The hanging plaster cast successfully treats nearly all fractures of the upper humerus, preventing muscular atrophy and allowing early return to maximum function.

It allows the patient to become ambulatory in a minimum length of time with a minimum annoyance of cumbersome appliances.

It is economical in that it reduces hospitalization, dependent care and cost of materials used.

One caution: Even though the method is simple and efficient one must have a cooperative patient and see him frequently throughout the period of treatment of from 8 to 12 weeks.

SPECIAL ARTICLE

GASOLINE AND TIRE RATIONING

AN OPEN LETTER TO THE MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

Reprinted from The Journal of the American Medical Association, October 31, 1942

In the East Coast Gasoline Rationing program, made necessary by the shortage of transportation facilities for petroleum products, the indispensability of your profession was recognized by its inclusion in the categories of persons eligible for preferred mileage, that is, necessary occupational mileage in excess of 470 miles a month. Now the

Office of Price Administration has been ordered by Mr. William Jeffers to institute and administer a nationwide mileage rationing program for the express purpose of conserving our rubber-borne transportation. In framing the Regulations for the new program, your profession was one of the first to be provided for.

If we are to carry out our double task of preventing a collapse of our military and civilian transportation, we must have the complete cooperation of those groups of persons whose driving is deemed essential to the war effort. Our immediate aim is to attain the 5,000 mile national mileage average set by the Baruch Report as the maximum possible in light of the dire rubber shortage. Our experience with the East Coast program tells us that the preferred categories use one half of the gasoline consumed, though they constitute less than one fourth of the total number of automobile operators. Clearly, then, the great savings of rubber on a nationwide scale must be made in the preferred categories.

Under the Regulations, governing the mileage rationing program, physicians are eligible for preferred mileage if their essential occupational needs exceed 470 miles a month and if the mileage is needed for regularly rendering necessary professional services. Mileage traveled daily or periodically between home or lodging and a fixed place of work is not considered preferred. Physicians who conduct their practices in offices, as many specialists do, are not eligible for preferred mileage.

Without question or hesitation, doctors have been and will be granted all the gasoline needed to carry out their professional work. We hope that they will regard their concrete symbol of their indispensability, the C book, as a moral obligation and not as a personal privilege. From another point of view, the C book is part of a doctor's equipment; it should not be used for anything but the work of humanity.

When nationwide gasoline rationing begins, there are certain concrete things a doctor can do to live up to the high ethical standards set for him by his own profession:

1. At the time of first issuance of rations, he can so carefully compute his necessary mileage as to make a B book adequate for his purposes though he might easily make out a case for a C book, which might be granted to him without question by his local War Price and Rationing Board eager to provide for physicians.

2. In the computation of his mileage, he can religiously adhere to the provision of the Regulations, which makes 150 miles of his basic ration available for occupational purposes. Moreover, he can help mightily in establishing the principles that only 90 miles of the basic ration are to be used for home necessity use and that there is no provision whatever in any ration for "pleasure driving."

3. Conversely, if he should be granted a C book, he can return to the local board, at the end of the three months period, all unused coupons accruing to him as a result of a quite natural overestimation of needs or of overgenerous "tailoring" by his board, instead of using such coupons for nonessential purposes. The moral effect of such an act on his fellow citizens will be incalculable.

4. He can set an example by scrupulously observing the 35 mile speed limit, except in cases of emergency, in spite of the fact that doctors could easily "get away with it."

5. Should he be assigned to a hospital, clinic or institution after a ration card for calling on his private practice has been issued, he can use public means of transportation at the price of personal inconvenience.

6. He can refrain from any kind of driving whatever which might appear to be nonessential in the eyes of the public.

Doctors are the leaders and molders of public opinion in their communities. If the average man has any reason to believe that the professional men whom he regards with great respect are indifferent or hostile to the mileage rationing program, it will be difficult, if not impossible, to make it effective. Conversely, if doctors as a group observe the letter and spirit of the Regulations, they will be a powerful force in making this absolutely mandatory war measure serve its purpose. We know that we can rely on the support of your profession, which has demonstrated its patriotism, ability and unselfishness at every opportunity.—John R. Richards, Chief, Gasoline Rationing Branch, Office of Price Administration.

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943

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THE USE OF VITAMIN AND ENDOCRINE PREPARATIONS IN ARTHRITIS

"I doubt whether there is another disease for which so many different kinds of treatment have been suggested as for the various types of chronic arthritis. The etiology of some of the more common forms of arthritis is unknown, hence satisfactory and more especially 'specific' treatment for these are not available. Many physicians consider nutritional deficiencies and metabolic and endocrine abnormalities to be primary or contributory causative factors for different rheumatic diseases, and on this basis, combined with empiricism, treatment employing the use of almost all the known vitamin and endocrine preparations has been developed. Search for improved remedies is always commendable; it is lamentable, however, that frequently little or no careful investigation is made to prove the value of a new therapeutic agent before it is heralded as of great value or even a 'cure.' On this account, therefore, I shall now take stock of the situation concerning the various vitamins and hormones in relation to arthritis." Thus does Freyberg[1] open his discussion of this timely subject. The author is connected with the Rockham Arthritis Research Unit and the Department of Internal Medicine of the University of Michigan Medical School and therefore has abundant clinical material for prolonged observation and careful treatment. In addition he has made a thorough examination of the literature pertaining to this field. At some length he considers one by one the effects of each of the vitamins and of thyroid, parathyroid, pituitary and adrenal preparations and also of estrogenic substance upon chronic arthritis.

And in conclusion he tells us that "with the current tendency toward unbounded enthusiasm for various vitamin and endocrine treatments for chronic arthritis, it seems timely—yes, even necessary—to emphasize the limitations in usefulness of these therapeutic agents. There is no known antirheumatic vitamin! It has not been clearly shown that any vitamin has any direct relationship to any rheumatic disease. It is true that deficiency of certain vitamins exists not infrequently in patients with chronic arthritis; in such cases adequate intake of the deficient food factor may materially improve the health of the patient, but it should not be expected that such treatment will directly benefit the arthritis. Vitamin therapy in this group of cases is a part of the treatment of the patient's general health and state of nutrition and not a 'specific' treatment of the rheumatic disease. In some patients massive doses of vitamin D appear to have a beneficial effect, especially symptomatically; in most of our patients improvement from vitamin D could not be detected. There is little or no evidence that this vitamin favorably alters the course of the rheumatic disease, especially rheumatoid arthritis. If used, therefore, vitamin D preparations should not be relied on as the 'one measure treatment' for arthritis. The potential toxicity and expense should be kept clearly in mind.

"Neither is there known to be a hormone 'specific' for arthritis, except in some cases of rheumatic disease developing with or shortly after the menopause, when estrogenic hormones, in adequate amounts orally or intramuscularly, are of distinct and apparently direct benefit. In all other cases endocrine preparations should be helpful in the treatment of patients with rheumatic disease only when definite hypofunction of an internal secreting gland exists, and in

1. Freyberg, R. H.: Treatment of Arthritis with Vitamin and Endocrine Preparations, J. A. M. A. 119: 1165 (Aug. 8) 1942.

such cases proper substitution therapy can be expected to be helpful only in correcting the deficiency state and the symptoms resulting therefrom and not directly to the rheumatic disease."

Freyberg's consideration of this difficult problem has been thorough and impartial; he is neither swept off his feet by unbridled enthusiasm, nor is he held back by blind and unreasoning prejudice. The never-ending and very tragic host of chronic arthritics will long be with us and all who have to deal with them will do well to heed the excellent advice of the Ann Arbor investigator.

THE 1943 FSA HEALTH SERVICE PROGRAM

The attention of the profession is called to the Farm Security Administration's 1943 Health Service Program that appears in succeeding paragraphs. In explanation of it, physicians in general will read with interest the accompanying letter from the Chairman of the State Board of Censors who served as chairman of the committee selected to consider the program.

To Secretaries of County Medical Societies:

You have received, through the Secretary of the Association, under date of October 7, the health service program of the Farm Security Administration for 1943. Supplementary to Dr. Cannon's letter of transmittal, I want to give you the following advice:

The State Medical Association at its last session instructed the Chairman of the Board of Censors to call a committee meeting of physicians representing the several sections of the state to work out a more satisfactory memorandum of understanding governing the medical care of FSA clients. This committee was called and met in the office of the State Board of Health on October 5th, with the following members present:

Dr. M. S. Davie	Dothan
Dr. K. A. Mayer	Lower Peach Tree
Dr. French Craddock	Sylacauga
Dr. J. Paul Jones	Camden
Dr. B. W. McNease	Fayette
Dr. J. S. Tillman	Clio
Dr. J. O. Morgan	Gadsden
Dr. Sam Hardin	Tuscaloosa

and the writer. FSA was represented by Mr. George Montgomery and Dr. J. A. Markley, of the District FSA Office. In addition, the State Health Officer and the Secretary of the Association were asked to sit with the committee in an advisory capacity.

As you have noted from the health service program, furnished you by Dr. Cannon, FSA is offering for 1943 a more liberal agreement than has prevailed before, making it uniform throughout the state so that every county will have the same base family pay. This is of special interest to those counties that have had a lower base pay heretofore. Further, the base family pay is higher than has prevailed in any county previously and this should prove interesting to all participating counties.

There is a family pay of two additional dollars for dental care this year, if dentists enter into agreement with FSA. This, however, is not taken from the agreement with physicians but is a direct one between FSA and the dentists, county medical societies having nothing to do with this aspect of the program. This is a distinct advantage since dental work will be available without encroachment on money allotted physicians for the medical care of FSA clients.

The division of monies set up for medical care of these clients and the manner of their expenditure are left up to the physicians of the participating counties.

The committee instructed the Chairman to send a copy of the skeleton proposition made by FSA to the several county medical societies for action by them before the first of the year, and it is this that you have received through the Secretary of the Association. If an agreement is entered into by your society, it should be built around this skeleton agreement and ready for operation by January 1, 1943, so that physicians and FSA county officials can begin paying bills the first month of the year. Thus no one will have to wait for pay for work done the first months of the year, as has been the case in many counties heretofore.

The Chairman wishes you to know that every physician requested to serve on this committee accepted and attended. They served cheerfully and therefore deserve the thanks of the entire Association.

Respectfully submitted
E. V. Caldwell, M. D.
Chairman of the Committee

October 14, 1942

To Secretaries of County Medical Societies:

Committee of the Association, appointed by the Chairman of the State Board of Censors to consider the medical care program of the Farm Security Administration, met in the office of the State Health Officer on October 5th and lent endorsement to the Administration's health service program for 1943; and directed me, as Secretary of the Association, to furnish you a copy for the guidance of your society in setting up local agreements with the Farm Security Administration for the approaching year. Your copy is attached.

Sincerely yours
Douglas L. Cannon, M. D.
Secretary

October 7, 1942

Health Service Program

I. GENERAL

A. *Medical Care*: The following policy will be adhered to in planning health services in the preparation of 1943 Farm and Home Plans.

There will be a uniform participation fee for all medical care programs; $20 base family fee, plus $1 for each additional member, with a maximum payment of $25 for any one family. The participation fee must be provided for either by funds on hand or through loan.

B. *Division of Funds*: Division of funds shall be made in order to assure funds for general practitioners, drugs, hospitalization, surgery and/or specialists' care. A maximum of $18 per family shall be available for general practitioners' care and drugs. The difference between $18 and the total amount available for each family shall be for hospitalization, surgery and/or specialists' care.

An exception to the above plan will be made in those counties where the general practitioners agree to furnish their services and necessary drugs for less than $18, thereby making more funds available for hospitalization, surgery and specialists' care.

II. SCOPE OF SERVICES

A. *Physicians*: Physicians' services include those services ordinarily rendered by general practitioners in the office or home, and obstetrical care.

B. *Drugs*: Drugs include all ordinary medicines dispensed or prescribed. The program must take care of the dispensed and the prescribed drugs. The method used to furnish drugs is to be worked out by the general practitioners; that is, whether or not the physician will dispense drugs or use prescriptions, or both, and methods of paying for prescribed drugs out of the $18 per family made available for general practitioners and drugs.

C. *Hospitalization*: Hospitalization includes all emergency cases and those cases recommended for hospitalization by the family physician.

D. *Surgery*: Surgery includes all major and minor surgical services recommended by the family physician. Emergency cases should, but not necessarily, clear through the family physician.

E. *Specialists' Care*: Specialists' care will be provided when the family physician feels that the service of a specialist is needed for consultation or other services. This service may be rendered in the office of a specialist, in a hospital, or in the home of the patient.

III. PAYMENT

A. All funds will be pooled and disbursed by a bonded trustee. The trustee must *not* be on the pay roll of the Farm Security Administration. The funds will be divided according to Paragraph I B ($18 per family for general practitioners and drugs, the balance for hospitalization, surgery and/or specialists' care).

B. There are two methods of payment used by counties in the Region:

(1) *The Pool or Fee for Service Plan*: Under this plan all funds for all families for general practioners' care and drugs are totalled and divided by twelve. One-twelfth of this money is available monthly to pay for general practitioners' care and drugs. At the end of each month all participating practitioners and druggists, if any, render their bills for the preceding month. The reviewing committee reviews and submits approved bills to trustee for payment. If one-twelfth of the funds exceeds the amount of all approved bills, all bills are paid in full and the remaining funds, if any, accumulate to the end of the year, at which time all accumulated balances are prorated over unpaid bills. In the event the one-twelfth of total funds available is less than the approved bills, each bill is paid on pro rata basis. In this way all share and share alike on percentage payment of approved bills.

(2) *Listing or Capitation Plan*: The families select the doctor of their choice. Each doctor receives a list of all families selecting him. If he approves this group, $18 for each of the families selecting the same doctor is credited to that doctor's account to pay for general practitioner's care and drugs. Upon rendering a monthly bill the doctor receives one-twelfth of the total amount of money for those families selecting him.

C. Hospitalization, surgery and specialists' funds are made available, one-twelfth monthly, under the same plan as those for general practitioners and drugs. The hospitalization funds are all handled on pool plan. Since one-twelfth of this money is the maximum amount available monthly, this should be explained to each hospital, surgeon, and/or specialist who may participate in the program. We must remember that the Farm Security Administration does not set the fees or rates to be charged by any professional group. Review and audit of bills is placed in the hands of the committee representing the group rendering services.

War News

THE SALVAGE STORY

By
PAUL C. CABOT
Deputy Chief
Conservation Division
War Production Board

To move every pound of critically-needed waste materials into the flow for the manufacture of implements of war is the over-all objective of the Salvage Branch of the Conservation Division, WPB. To make every man, woman and child in America conscious of this need, and to secure the active cooperation of every American to "get in all the scrap—*Now,*" is equally important.

The steel mills of America are doing a grand job to keep our war production on the schedule established by Donald Nelson. However, it was divulged at the Newspaper Editors' Meeting in Washington that there is an inadequate inventory of iron and steel scrap in the hands of consumers.

It has been determined that if our production schedule is to be maintained, 17,000,000 net tons of purchased iron and steel scrap are wanted in the second half of 1942 to give the iron and steel furnaces sufficient inventories to prevent shutdowns when the cold weather sets in.

The War Production Board, through its Salvage Branch, approaches this problem of "getting in the scrap" in four major directions; namely, through—

1) The Industrial Salvage Section, which is charged with the responsibility of educating industry to salvage all critical waste materials, to speed up the return of these materials into the war production stream and to help industry to use established channels of disposal.

The present immediate objective of the section is to urge and assist the executive management of every industrial establishment in the country to locate, classify and move into war production channels all dormant and production scrap in their possession as speedily as possible. "Dormant" scrap is defined as obsolete machinery, tools, equipment, dies, jigs, fixtures, etc., which are incapable of current or future use in the war production effort because they are broken, worn-out, irreparable, dismantled or in need of unavailable parts necessary to practical reemployment.

Hamilton W. Wright, Chief of the Industrial Salvage Section, says to industry: "Worn-out, unusable material, machinery and equipment must be reborn in America's furnaces, smelters and refineries. Only by this method can we obtain sufficient raw materials required to produce urgently needed armament for our fighting forces."

Representatives of the Industrial Salvage Section in all parts of the country are urging industrial firms to appoint an executive as salvage director, put into motion a practical, continuing salvage campaign and to adopt the policy, "If it hasn't been used for three months, and if someone can't prove that it's going to be used in the next three, find a use for it or 'scrap' it."

2) The General Salvage Section is charged with establishing salvage programs in local community areas, appointing local committees and directing their activities. Their salvage operation extends to every household including farms, all retail stores, garages, hotels, small businesses and the smaller industrial organizations in rural areas.

The General Salvage Section, aided by the farm implement manufacturers, has created a well conceived plan to harvest all the scrap from every farm in the country. A far-reaching campaign which will involve all the teachers and school children of the country has already been put into action and will extend its influence in every home in the country. The oil, rubber, automotive and steel industries and their dealers, as well as numerous other private and public agencies, are working through some 12,500 state and local salvage committees in their efforts. The newspapers of the country have assumed the responsibility of vitalizing all of these activities.

3) The Special Projects Salvage Section is responsible for salvaging large accumulations of secondary and waste materials that are tied up due to financial, legal, political, and other reasons and which cannot be quickly handled by other sections in the normal course of operation. Special projects include such things as abandoned railroads, streetcar lines, factories, bridges, etc. Recently the Metals Reserve Company, at the request of the Conservation Division, set up an organization entitled War Materials, Inc. for the purpose of salvaging iron and steel scrap which cannot be topped within exist-

ing price ceilings. The War Materials, Inc. will work in cooperation with the Special Projects Section and it is expected that the tonnages of so-called marginal scrap will greatly expand as a result of this new organization.

4) The Automobile Graveyard Section, now working through 254 field representatives, has the responsibility to see that 20,000 graveyards in the United States are functioning as producing units. With the help of the steel industry, nearly all the regions in the country have been placed on a 60-day plan, which means that the dealers and brokers have been told that graveyards have been informed that they must break up and sell their inventory within the same period. It is essential to keep these graveyards as operating scrap producing units. Most people mistakenly believe that best results are obtained by the elimination of automobile graveyards. In view of the fact that anywhere from 1,000,000 to 2,500,000 cars annually come off the roads and enter graveyards, it is essential that they be kept in operation as an important continuing source of scrap metal supply. To keep these operations in existence it is as essential that they have an adequate inventory as it is that any other industry maintain a reasonable inventory.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

AUGUST 1942

Examinations for diphtheria bacilli and Vincent's	618
Agglutination tests (typhoid, Brill's, undulant fever)	1,202
Typhoid cultures (blood, feces and urine)	1,477
Examinations for malaria	2,391
Examinations for intestinal parasites	2,332
Serologic tests for syphilis (blood and spinal fluid)	49,233
Darkfield examinations	52
Examinations for gonococci	2,912
Examinations for tubercle bacilli	1,817
Examinations for Negri bodies (microscopic)	47
Water examinations (bacteriologic)	1,146
Milk examinations	2,045
Pneumococcus typing	4
Miscellaneous	631
Total	65,907

PNEUMOCOCCUS TYPING

In 1937, when the pneumococcus typing service was made generally available to the physicians of Alabama through the Branch Laboratories of the State Department of Health, it promised to become a procedure of great value. The reason for this was that therapeutic, type-specific antipneumococcus serum for all the serologic varieties of the pneumococcus was just coming onto the market. About the same time, however, the first of the sulfonamide drugs was demonstrated to be an effective chemotherapeutic agent and it was not long before a sulfonamide derivative was shown to have an almost specific action in lobar pneumonia. The result has been a practical abandonment of typing so that maintenance of typing sera in all the Branch Laboratories is no longer a justifiable expense. From this time on, therefore, specimens will be typed for the pneumococcus only in Decatur, Mobile, Montgomery and Birmingham. This means that specimens received in the Dothan, Selma, Tuscaloosa, Anniston or Huntsville laboratories will be sent on to the nearest branch where typing sera are available. In Montgomery and Birmingham, sera for identifying all types of the pneumococcus will be available but in Mobile and Decatur only that for Types I, II, III, V, VII and VIII will be kept in stock. In the case of specimens sent to these laboratories in which pneumococci are seen to be present but identification is impossible with the typing sera available, the specimens will be forwarded to either Birmingham or Montgomery.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

A YEAR'S WORK IN A TUBERCULOSIS SANATORIUM

As an example of the work being done by the various tuberculosis sanatoria in the state a report of the Montgomery County Tuberculosis Sanatorium for the year ending May 30, 1942 is very instructive. This sanatorium was built and maintained for

years as a purely local institution but with the advent of subsidy funds from the state was able to extend its facilities to tuberculosis victims from other counties.

In the year under review patients from twenty-eight counties, exclusive of Montgomery, were admitted and of the 189 patients admitted 78, or 41%, were from counties other than Montgomery. The justification of state subsidy is amply revealed by these figures. The type treatment accorded these patients varied, of course, with the stage of the disease but in entirely too high a proportion of the patients the disease was far advanced when first seen and optimal treatment could not be applied. Forty-four per cent of the white patients were classified as far advanced, while 62% of the colored had progressed to this point on admission.

Slightly more than half of the patients were treated by pneumothorax and a considerable number were given the benefit of other operative procedures such as phrenic operations, pleurolyses, or thoracoplasties. A total of 2,237 pneumothorax refills were given during the year, which did not include 550 refills to patients who had been discharged from the sanatorium. This outpatient refill clinic is one of the most valuable contributions which can be made since it enables patients to remain a short period in the hospital and then continue their treatment at home.

Another activity at the sanatorium is the out-patient diagnostic clinic where suspect cases of the disease may be referred for examination. Almost 1,500 such examinations were made with the finding of more than 100 new cases of tuberculosis. Again, entirely too many of these newly diagnosed cases were classed as far-advanced and many of them hopeless.

The patients discharged from the sanatorium reveal the benefit or lack of benefit from hospital stay. Seventy per cent of the white patients were discharged as arrested, apparently arrested, quiescent or improved, while 8.5% died. With the negro, however, only 52% were markedly helped, and 34% of the discharges were on account of death. This emphasizes two things: the rapid course of tuberculosis in the colored race and the far-advanced stage of many on admission.

The Montgomery Tuberculosis Sanatorium is doing an excellent piece of work and is to be commended.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

PRESENT-DAY KNOWLEDGE OF NUTRITION IN RELATION TO PREGNANCY

There is sufficient evidence of a definite relationship between nutrition and certain disabilities and toxemias associated with pregnancy and childbirth to create a desire for specific information relative to diet in human reproduction and lactation. The effect of nutrition upon maternal morbidity and mortality rates and upon neonatal and infantile mortality is recognized. In view of the facts presented in the editorial on toxemias in the September 1942 issue of this Journal, careful instruction with respect to food requirements during pregnancy is a timely consideration. Therefore, attention to the diet constitutes a most important item in any maternal and infant welfare program.

It is an accepted fact that, while pregnancy and lactation are considered normal physiologic states, each does make increased nutritional demands upon mothers.

Digestion and absorption from the intestinal tract are often impaired during pregnancy, and the increased nutritional needs, together with a digestive system functioning below par, make careful attention to the diet doubly important.

Assuming that the woman enters pregnancy in a healthy nutritional status, the first three or four months of pregnancy make no appreciable difference in the mother's food requirements. However, this condition too often is far from the case. The nausea and vomiting early in pregnancy may be relieved by giving carbohydrates in simple form at frequent intervals. Metabolism is below normal and the fetus lives almost entirely on carbohydrates which are stored in the placenta. From the fourth month to the end of pregnancy, the metabolic rate increases so that at the time of delivery the metabolism is 20 to 25 per cent over that of the mother before conception.

If there is a tendency towards obesity, the food should be limited to absolute fuel

requirements without curtailing proteins, minerals or vitamins. The reduction of calcium in an effort to make birth easier is a dangerous procedure and does not accomplish its purpose. Dietary regulations appear to have little influence upon the size of the newborn.

There is some difference of opinion with regard to what constitutes the optimum intake of protein during normal pregnancy. The idea prevails quite generally that excess of protein exerts a harmful effect in human pregnancy. Toxemias of pregnancy are frequently attributed to too much meat in the diet and many obstetricians advocate restriction of meat consumption.

The exact causes of toxemias which are likely to appear usually during the third trimester are undetermined. Many are due to conditions which existed before pregnancy. Some, however, are due to pregnancy, and to these Strauss, of the Harvard Medical School, contends the cause is the result of undue water retention occasioned by lowering of the plasma proteins and advises a high protein diet with a low sodium content.

However, there is some difference of opinion as to the protein requirement when toxemia is due to vascular or renal conditions, but in the light of present-day knowledge and experience a generous rather than a restricted protein intake is recommended. The proteins of milk, eggs, lean meat and liver are superior to vegetable proteins.

According to Mendenhall, there is every reason to believe that ability to produce breast milk of a superior quality is to some extent dependent on the storage of materials from the mother's food during the prenatal period, as well as on the supply of nutrients from the food she receives during lactation. Studies indicate that a low storage of nitrogen during pregnancy may adversely affect lactation.

One of the commonest defects of modern dietaries is a faulty mineral supply. During pregnancy, the needs for calcium, phosphorus, iron and iodine should be emphasized. It is essential that the pregnant woman receive sufficient calcium in her food so that she will not have to sacrifice the calcium of her bones and teeth for the developing fetus.

There is evidence that calcium and phosphorus from milk are better than that from other foods, and it is difficult or practically impossible to supply in other foods amounts equivalent to what can readily be supplied in milk. Calcium in the form of its salts is not as effectively utilized as the calcium of milk. It costs more than the same amount acquired from milk and has none of the additional nutritional value of milk.

Calcium is retained in larger quantities if the diet is slightly alkaline, hence tomato and citrus fruits and fresh vegetables should be used freely. Vitamin D is also concerned with the retention of calcium, and because milk itself does not supply enough vitamin D, fish liver oil or milk reinforced with vitamin D may be prescribed by the physician. Exposure to sunshine should provide the chief source of vitamin D when possible.

Phosphorus is almost invariably associated with proteins and a sufficiency of the latter will supply an adequacy of the former.

It has recently been suggested that iron during pregnancy may be more important that calcium in view of the fact that anemia of pregnancy is common, whereas the greater drain upon the mother's calcium store probably comes during lactation. The iron supply must meet the demand required to maintain the mother's blood pigment at the normal level and for the fetus which absorbs a considerable amount of iron for use in blood formation as well as storage for use during the nursing period. Unless this drain upon the mother is counterbalanced by ingestion of foods rich in iron as liver, kidney, lean meat, eggs, molasses, green leafy vegetables, whole grain bread and cereals, there may result more or less severe grades of anemia.

A deficiency of iodine during pregnancy may cause goiter in the child or the mother. The best sources of natural food iodine are sea-water foods and fish liver oils.

The requirements for all vitamins appear to be increased in pregnancy. They play an important part in both mother and fetus. The fetus needs nearly all of them and they must be provided in the mother's diet. A deficiency of thiamin, associated with vomiting frequently experienced in early pregnancy, is a rather common condition. A good store of vitamin A is extremely important in promoting health during pregnancy. If fish liver oil is prescribed by the physician as a source of vitamin D, vitamin A will also be furnished. Vitamin D is indispensable

for the regulation of calcium and phosphorus utilization.

Neither thiamin nor ascorbic acid can be stored to any great extent and accordingly a constant supply is necessary. Frequently, brewer's yeast or wheat germ is prescribed by the physician. Ascorbic acid is closely associated with the assimilation of iron for the formation of red blood pigment. An adequate amount can be furnished by fresh fruits and green vegetables which should be part of the normal diet.

A deficiency of any one of the indispensable food nutrients causes obstetric difficulties and in many instances greatly increases infant mortality. A careful study of four hundred women attending a prenatal clinic in Toronto was conducted by Dr. J. H. Ebbs and Winifred J. Moyle with the following results reported from the Poor Diet Group: more miscarriages, stillbirths, premature births, and infant deaths; twice as many cases of anemia, toxemia, and threatened miscarriages; twice as many cases of uterine and breast infections; average duration of labor five hours longer; fifty-nine per cent against eighty-six per cent able to nurse their babies after six weeks; and more illnesses in the babies; two infants died of bronchopneumonia and one as a result of prematurity. There have been no deaths in the Better Fed Groups.[1]

A. T.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

RELATIONSHIP BETWEEN CONSULTING ENGINEERS AND THE STATE DEPARTMENT OF PUBLIC HEALTH ENGINEERS ON WATER AND SEWERAGE

Numerous requests are directed to the State Department of Public Health for engineering service on water and sewerage systems and treatment plants. These requests are from municipalities, institutions, private corporations, army officials, and others. A majority of them are in line with the duties and functions of the department's engineers and are granted.

Some requests are made which do not come within the field of work performed by these state engineers but fall in a class of work handled by professional engineers and land surveyors in private practice.

The duties, obligations, and general functioning of private and state engineers are in many respects closely related. In other respects, they are distinctly different. The relationship between the two can best be seen in an outline of the major duties performed by each.

Under the State Water Law (1940 Code of Alabama), the State Board of Health operating through its State Health Officer and Division of Engineering has supervision and control over public water supplies and water works of the state. Also, according to law (1940 Code of Alabama), before action is taken for the purchase or construction or improvement, enlargement, extension or repair of a sewer system or sewage treatment plant or before incurring any debt or issuing any bonds in aid of such a system or works, a permit must first be obtained from the State Board of Health.

Working under these state laws and serving voluntarily the people of the state in every way possible within their means and jurisdiction, the department's water and sewerage engineers perform various duties including the following:

1. Promote the installation of water and sewerage systems and treatment plants to serve municipalities, institutions, and private corporations.

2. Serve in an advisory capacity to municipal officials, consulting engineers, and other parties concerned in the development and design of public water and sewerage works and improvements.

3. Assist in placing new plants or plant additions into operation.

4. Supervise operation of treatment plants and systems through limited routine field visits and inspections.

5. Give technical advice to owners and responsible operating personnel through the use of the department's office equipment and library, the state's bacteriologic laboratories and through studies of data obtained from, or submitted by, consulting engineers, commercial chemical laboratories, manufacturing concerns, and technical and professional organizations.

The actual designing and detail planning for the construction of water and sewerage works is a function of the designing and con-

1. J. Am. Dietetic A. 18: 1, 1942.

sulting engineers who make this their profession.

The duties or work performed by these engineers include the following:

1. Promote the installation of water and sewerage systems and treatment plants largely through the preparation of contractual agreements whereby the engineer legally serves the owner as its representative on the project from the time of its instigation to completion.

2. Prepare preliminary plans, engineering reports, and estimate of costs, after a study, survey and analysis of the problem has been made.

3. Submit all necessary data to the owner and the State Department of Public Health for consideration, discussion, and approval.

4. Assist the owner in handling legal and financial matters.

5. Prepare final detailed plans, specifications, and contract documents, and secure approval of any federal agency involved as well as approval and construction permit from State Board of Health.

6. Assist in advertising and letting contracts for the work, or otherwise getting work started if constructed by a Federal agency such as WPA.

7. Handle correspondence between owner, contractor, and all state and federal agencies involved.

8. Supervise construction work until project is completed, accepted by the owner and State Board of Health, and placed in operation.

The relationship between the duties of the state and private engineers is indicated in the brief outlines given herein. In many respects this work overlaps. Both types of engineers are looking toward the same product in the end. For this reason, their work in general is harmonious to a marked advantage. Both are thinking in terms of water and sewerage plants and systems which will be most efficient and economical to operate and structurally correct. As a rule, the state engineers are in a better position to know the needs of a community and the most practical installation from an operation standpoint when considering maximum public health protection at a minimum cost. The consulting engineer likewise wishes the work to meet those same requirements but he must also give due consideration to other factors such as financing, legal matters, design of structures using materials available, and supervision of construction.

The two fields of engineering work go hand in hand each depending upon the other for proper results.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	Aug.	Sept.	Estimated Expectancy Sept.
Typhoid	32	18	65
Typhus	57	59	42
Malaria	802	893	1320
Smallpox	0	0	0
Measles	27	34	28
Scarlet fever	70	128	74
Whooping cough	104	134	77
Diphtheria	35	83	155
Influenza	72	77	76
Mumps	27	34	23
Poliomyelitis	16	7	10
Encephalitis	0	1	3
Chickenpox	4	6	6
Tetanus	3	6	4
Tuberculosis	221	305	229
Pellagra	12	11	32
Meningitis	7	3	3
Pneumonia	129	105	73
Trachoma	0	0	0
Tularemia	1	0	0
Undulant fever	7	12	6
Dengue	0	0	0
Amebic dysentery	0	4	0
Cancer	174	163	0
Rabies—Human cases	0	0	0
Positive animal heads	9	8	

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Medical News

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

Midway, in Bullock County, is without a physician, and the Bullock County Medical Society calls the opening to the attention of members of the profession who may be interested in change of location. Details may be had from Dr. J. K. Haygood, Secretary of the Society, Union Springs, Alabama.

* * *

The Northeastern Division of the Association met in Albertville, October 15, with the Marshall County Medical Society as host. The Vice-President of the Division, Dr. J. O. Morgan, Gadsden, presided, and essayists included Drs. J. E. Cameron, Alexander City; W. Lindsey Miller, Gadsden; E. W. Venning, Guntersville, and Albert E. Casey, Birmingham.

The 1943 meeting of the American Medical Association has been cancelled. Detailed note regarding this appeared in the October Journal.

* * *

Loss experienced by the community in the death of Dr. W. L. Tucker of Cullman in a DeQuincey, La., hospital on July 17, 1942, while in the service of his country, found expression in the following tribute paid him by the editor of the Cullman Banner:

The sudden shock caused by the tragic and untimely death of Dr. Lee Tucker left Cullman County aghast last week, fearful lest the war may hold in store for the community other such catastrophes. When the news was received last Thursday afternoon that the Cullman surgeon was at the point of death in a Louisiana Army Hospital, it was unbelievable, but by Friday morning, whenever the news of the death had been confirmed, a pall of gloom was cast over the entire community. Lee Tucker's friends were countless in Cullman County, and after seeing hundreds of Cullman Countians pass by the body as it lay in state at the First Baptist Church before the funeral rites, one realized that the county had suffered the loss of not only a great friend, but of the kind of benefactor who can seldom be replaced.

* * *

Dr. Charles A. Baumhauer of Whistler has been awarded a silver star for gallantry in action according to a release from General Douglas MacArthur's headquarters in Australia under date of October 11. Said the release:

Maj. Gen. George C. Kenney awarded a silver star for gallantry in action today to Capt. Charles A. Baumhauer, medical corps officer from Whistler, Ala., who exposed himself to enemy fire to assist wounded comrades during an air raid on Port Moresby April 26.

Capt. Baumhauer's citation said:

"He did a great deal to relieve the pain and suffering of wounded men and helped establish a feeling of safety and security among the personnel, who had been through a harrowing experience."

* * *

The Executive Committee of the Rocky Mountain Medical Conference has by unanimous vote directed that the Fourth Biennial Meeting of the Conference, originally scheduled for May 19, 20, and 21, 1943, at Albuquerque, N. M., be postponed indefinitely on account of war conditions. The committee requests that suitable publicity be given to this fact.

The current organization of the conference will be retained subject to further advice from the Continuing Committee, and current funds of the conference will be invested in United States War Bonds insofar as is practicable.

The Executive Committee of this conference is elected biennially by the Continuing Committee, which in turn consists of five representatives from each participating state medical society. It is the hope of the Executive Committee, subject to unforeseen future contingencies, that the tentative plans for conduct of the Fourth Meeting may be so retained that at the conclusion of the war or at any earlier time that governmental authority so advises, these plans may be reactivated at Albuquerque.

* * *

A new method for continuous or fractional caudal anesthesia has been developed by Edwards and Hingson (Am. J. Surg., 57:459 (September), 1942). It appears to be remarkably effective and yet retains the complete cooperation of the patient. There has been uniform absence of delirium, narcosis, cyanosis, nausea, vomiting, and anoxemia, and no interference with uterine contractions. Every infant in the authors' series breathed spontaneously except one stillborn known to have been dead several days before delivery.

The technic consists in the injection of an initial dose of 30 cc. of 1½ percent solution of Metycaine (Gamma-(2-methyl-piperidino)-propyl Benzoate Hydrochloride, Lilly) followed at thirty or forty minute intervals with 20 cc. of the 1½ percent solution. In every case there has been complete freedom of pain and discomfort of active labor within five minutes following the initial dose. Episiotomy and outlet forceps, and repair of the episiotomy has been without pain. The average duration of anesthesia has ranged from four and three-quarters to thirteen hours.

One patient described was having eclamptic convulsions when admitted, with blood pressure 220/110. After the initial dose of Metycaine was given, the pressure declined to 140/90 and the clinical picture improved remarkably. The anesthetic was continued throughout the day without the blood pressure exceeding 150. She delivered a healthy baby spontaneously thirteen hours after the initial dose.

The American Board of Obstetrics and Gynecology announces that the next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 13, 1943, at 2:00 P. M.

Arrangements will be made so far as possible for candidates in military service to take the Part I examination (written paper and submission of case records) at their places of duty, the written examination to be proctored by the Commanding Officer (medical) or some responsible person designated by him. Material for the written examination will be sent to the proctor several weeks in advance of the examination date. Case records may be submitted in advance of the above date, only by candidates in Service, by forwarding these to the office of the Board Secretary by the candidate upon entering military service, or in the event of assignment to foreign duty. All other candidates should present their case records to the examiner at the time and place of taking the written examination.

The Office of the Surgeon-General (U. S. Army) has issued instructions that men in Service, eligible for Board examinations, be encouraged to apply and that they may be ordered to Detached Duty for the purpose of taking these examinations whenever possible. The Office of the Surgeon-General of the U. S. Navy presumably takes a similar attitude on this matter.

All candidates will be required to take both the Part I examination, and the Part II examination (oral-clinical and pathology examination). Candidates who successfully complete the Part I examination proceed automatically to the Part II examination to be held later in the year.

The Part II examination for 1943 will be held late in May. Because of the cancellation of the American Medical Association's annual convention, the place of the Board's Part II examination has not yet been decided, but it will be held in that city nearest to the largest group of candidates. The exact time and place will be announced later.

If a candidate in Service finds it impossible to proceed with the examinations of the Board, deferment without time penalty will be granted under a waiver of our published regulations covering civilian candidates.

Applications for this year's examinations must be in the office of the Secretary not later than November 16, 1942.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

* * *

Dr. W. A. Daniel, Jr., announces the opening of offices at 4 Catoma Street, Montgomery, for the practice of pediatrics.

* * *

Dr. E. R. Nodine, formerly of Andalusia, is now located in Montgomery.

* * *

The American Gastroenterological Association on January 1, 1943 will publish the first issue of a new Journal to be called, *Gastroenterology*. The new Journal will be owned by the Association, will be the official publication of the Association, and will be published by Williams and Wilkins Company. It will appear monthly, and the subscription price will be $6.00 per year.

Dr. W. C. Alvarez will be the Editor (after June, 1943) and Dr. A. C. Ivy will be the Assistant Editor. The Editorial Board will consist of Doctors A. H. Aaron (Buffalo), J. A. Bargen (Rochester), H. L. Bockus (Philadelphia), W. C. Boeck (Los Angeles), B. B. Crohn (New York), R. Elman (St. Louis), F. Hollander (New York), Sara Jordon (Boston), J. L. Kantor (New York), B. R. Kirklin (Rochester), P. Klemperer (New York), F. H. Lahey (Boston), F. C. Mann (Rochester), H. J. Moersch (Rochester), V. C. Myers (Cleveland), W. L. Palmer (Chicago), J. M. Ruffin (Durham), R. Schindler (Chicago), and D. L. Wilbur (San Francisco).

Gastroenterology invites for publication clinical and investigative contributions which are of interest to the general practitioner as well as the specialist and which deal with the diseases of digestion and nutrition, including their physiological, biochemical, pathological, parasitological, radiological and surgical aspects.

Manuscripts should be sent to Dr. A. C. Ivy, *Gastroenterology,* 303 East Chicago Avenue, Chicago, Illinois. Letters regarding subscriptions and business matters should be addressed to Mr. R. S. Gill, Williams and Wilkins Company, Baltimore, Maryland.

Presentation of the coveted Army-Navy "E" Pennant to E. R. Squibb and Sons was witnessed by more than 2,000 employees in the grand ballroom of the Waldorf-Astoria Hotel, New York City, on Friday night, September 18th. The pennant was presented by Rear Admiral Harold W. Smith, (MC) USN, Chief of the Navy's Research Division of Bureau of Medicine and Surgery, to Carleton H. Palmer, Chairman of the Squibb board.

With the pennant went insignia of excellence to each of the employees of the company which manufactures critical drugs, biologics, and other medical essentials for the armed forces. Brig. General Larry B. McAfee, Assistant to the Surgeon General of the United States Army, presented token "E" buttons to four employees—three women and one man—selected from four Squibb departments in which service entails personal hardship and risk of health and even life in supplying of medical needs for the Army and Navy.

One of the pin recipients was Miss Anna Masterson, employed in the manufacture of antityphus vaccine.

"Not one Squibb worker engaged in this perilous occupation escapes the typhus infection," declared General McAfee in giving Miss Masterson her button. "To some degree or other, each becomes ill, distressingly ill, may even die. They face this distress, this peril, to protect others."

Citing the fact that many of the workers in the Squibb "civilian army" are in peril "every minute of every hour of every working day," General McAfee told of the task of Miss Lotti Kuras, who has two brothers in the Army and one in the Navy. Miss Kuras "fills glass ampuls with a liquid that must be handled at a temperature of ninety degrees below zero, then sealed with a searing hot flame," said General McAfee, declaring that "despite every precaution known, everyone engaged in this delicate hazardous work at some time or other is cruelly, painfully, sometimes dangerously burned by the excessive heat or cold."

The only male recipient was George Brown, employed in the sulfathiazole division. Also receiving a pin from General McAfee was Miss Mary Murtha, who works in the laboratories which prepare hypodermic solutions.

Speaking of the danger faced by Squibb employees, despite their civilian status, General McAfee said: "They face this distress, this peril, to protect others. A soldier can do no more! This Army-Navy "E" for excellence seems a mild reward, a modest citation for your perilous occupation."

In presenting the pennant to Mr. Palmer, Admiral Smith declared: "Your ability to supply the armed forces with critical drugs, biologics, and many other essentials makes it possible for the services to maintain the high standard of performance in life saving that began at Pearl Harbor." Speaking of the global aspect of the war, Admiral Smith pointed out that not only must we fight the enemy in every part of the world, "but they fight disease which is ever-present in foreign fields."

Making the pennant presentation, the Navy officer stated it signified "excellence in performance, excellence in the manner in which you have met all date-lines on delivery, and excellence in the products that you have delivered to us."

In his speech of acceptance, Mr. Palmer quoted as a "pattern for America":

"There was a dream that men could one day speak the thoughts of their own choosing. There was a hope that men could one day stroll through streets at evening, unafraid. There was a prayer, that each could speak to his own God in his own church. That dream, that hope, that prayer became America! Great strength, youthful heart, vast enterprise, hard work, made it so. Now that same America is the dream, the hope, the prayer of the world. Our freedom—its dream. Our strength—its hope. Our swift race against time—its prayer! We must not fail the world now. We must not fail to share our freedom with it afterwards."

* * *

Dr. Wyatt S. Roberts, formerly associated with Dr. George E. Shambaugh, Jr., Chicago, has opened his offices in the Empire Building, Birmingham, with practice limited to diseases of the eye, ear, nose and throat.

* * *

Dr. Chas. J. Donald, Jr., announces the opening of his office at 918 South 20th Street, Birmingham.

* * *

Dr. J. B. Graham has moved from Atmore to Mobile.

The Georgia Pediatric Society will hold its annual Scientific Meeting in Atlanta, December 10th. The afternoon session will be at the Pompeian Ball Room, Biltmore Hotel and the evening session at the Main Auditorium, Academy of Medicine, Fulton County Medical Society.

The following are the speakers:

Alexander Ashley Weech, M. D., B. K. Rachford, Professor of Pediatrics, University of Cincinnati; Medical Director of the Children's Hospital Research Foundation, Cincinnati, Ohio.

Meredith Campbell, M. D., Professor of Urology, New York College of Medicine, New York, N. Y.

Abraham Levinson, M. D., Assistant Professor Pediatrics, Northwestern University Medical School; Professor Pediatrics, Cook County Graduate School, Chicago, Illinois.

Book Abstracts and Reviews

Pharmacopeia of the United States. Prepared by the Committee of Revision and Published by the Board of Trustees by Authority of the U. S. Pharmacopeial Convention, Washington, D. C. May 14 and 15 1940. Cloth. Price, $7.50. Pp. 880. Easton, Pa.: Mack Printing Company, 1942.

The twelfth edition of the U. S. P. becomes official on November 1st, 1942. This widely known reference book on the standardization of the most important basic drugs known to the profession has now been brought up to date as much as is possible with the rapid strides of drug development. The new edition follows closely the previous editions of this work which have proven so valuable since the appearance of the first edition in 1820. The new U. S. P. includes 160 new articles, among which are sulfanilamide, sulfapyridine, sulfathiazole, insulin and some of the new vitamin concentrates. It is also of importance to note that the U. S. P. XII has adopted the cat unit of standardization for digitalis. The book remains a mine of information for the druggist or physician who wishes to familiarize himself with the composition or identification of any of the included articles. The U. S. P. is not only concerned with the standardization of drugs but also with many associated articles such as surgical sutures, adhesive tape, absorbent cotton and related materials. A bound supplement with new additions is to appear in about 2½ years which is to be included in the initial purchase price of the U. S. P. A notable addition to the new U. S. P. is the inclusion of a list of Spanish titles opposite the English name of the drug. The U. S. P. XII is heartily recommended to those doctors who still write their own original prescriptions.

P. K. B.

Synopsis of Pathology. By W. A. D. Anderson, M. A., M. D., Assistant Professor of Pathology, St. Louis University School of Medicine; Pathologist to St. Mary's Group of Hospitals. Cloth. Price, $6.00. Pp. 661, with 294 illustrations and 17 color plates. St. Louis: The C. V. Mosby Company, 1942.

The book is a condensed and compact volume containing practically all phases of general pathology. One will be pleasantly surprised at the quality and quantity of this text. It follows the teaching plan that is used in the majority of medical schools. Beginning with inflammation, repair and regeneration, it follows with retrograde changes, disturbances of circulation, bacterial infections and new growth. Approximately one-half of the volume discusses the pathology of the various systems. Under each system will be found a brief discussion of the primary and secondary diseases and their effects on the body as a whole.

This book should be of special value to the medical student for by reading the book he will have a broader understanding of general pathology before going to the more complicated text. The pathologist and general practitioner will find it excellent for quick reference and for refreshing one's memory in a short time. The volume is well illustrated and there are many excellent photographs of gross pathologic specimens and photographs of many microscopic sections.

C. R. L.

Health Education of the Public. By W. W. Bauer, B. S., M. D., Director, Bureau of Health Education, American Medical Association; Associate Editor of Hygeia; and Thomas G. Hull, Ph. D., Director, Scientific Exhibit, American Medical Association. Foreword by Morris Fishbein, M. D., Editor of the Journal of the American Medical Association. Second edition. Cloth. Price, $2.75. Pp. 312, illustrated. Philadelphia and London: W. B. Saunders Company, 1942.

The authors of this little book are amply and adequately equipped with a background of many years of first-hand experience in health education, in the organization of exhibits and as medical contactants with lay groups. The very fact that public health work is largely one of public education and example renders this contribution to medical literature a vital textbook for prospective health workers as well as for those energetic and influential physicians in all communities. I refer especially to those men who are willing to be teachers and by having an ever-ready source of interesting material for presentment before local civic and church organizations can develop their own local value and appreciation while rendering a community service.

It is for such individuals that this book will be of inestimable value, an ever-ready expert source for radio talks, civic discussions and newspaper articles by which a physician can extend his sphere of influence and affluence, legitimately and ethically.

H. T.

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943





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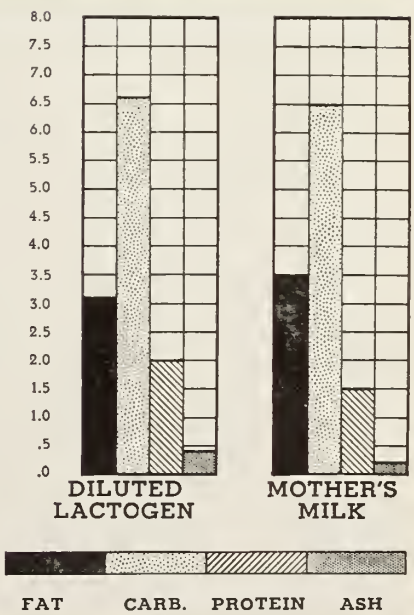
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MEDICAL OFFICERS NEEDED—TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority is in urgent need of medical officers who are not eligible for military service and who are willing to accept assignments to war industrial activities (construction, manufacture of war chemicals, and manufacture of hydroelectric power) as their participation in the all out war effort. Responsibilities include physical examinations, industrial hygiene, care of injuries, medical care to families in remote construction areas, and general public health responsibilities in construction camps and villages. Salary ranges from $3200 to $4200 per annum with opportunity for promotion. For further information write to Dr. E. L. Bishop, Director of Health, Tennessee Valley Authority, Chattanooga, Tennessee, or to the Personnel Department, Tennessee Valley Authority, Knoxville, Tennessee.

Miscellany

SAYS AVERAGE LENGTH OF LIFE CAN BE INCREASED TO 75 YEARS

HYGEIA EDITOR DECLARES THAT WHAT IS NEEDED IS IMPROVED DISSEMINATION OF KNOWLEDGE NOW AVAILABLE TO SCIENTIFIC MEDICINE

Pointing out that the average length of life is now 65 years and can reach without too much trouble 75 years, Morris Fishbein, M. D., Chicago, Editor of Hygeia, The Health Magazine, in an editorial in the November issue declares that "What is needed in order to make more people live to be 75 years of age is still further improvement in dissemination of the knowledge now available to scientific medicine." The editorial says:

"Out of 100,000 infants born in 1876, only 30,000 were expected to survive to the age of 65. Actually, however, 42,000 survived to the age of 65—because of the improvement in medical science, public health and general welfare. The American population is becoming older. In 1850 only 2.6 per cent of our population were 65 years of age. In 1900 it was 4.1 per cent, and in 1940, 6.8 per cent. By 1980 it is estimated that those who are 65 years of age or over will constitute almost 15 per cent of our total population.

"According to Biblical legend, the years of man are three score and ten. The life cycle may be divided into twenty years of growth, thirty years of maturity and twenty years of gradual breakdown. However, many people live beyond 70 years of age. Some people live to be 100 years or over. Since human beings can live to be 100 years of age, it would be well perhaps to set the life span at that age. However, Louis I. Dublin, eminent statistician in the field of medicine, feels that the average length of life is now 65 years and can reach without too much trouble 75 years. . .

"Already, infant mortality has been reduced in some of our large communities to a rate of 29 in comparison with a rate of more than 200 fifty years ago. When only 29 out of every thousand babies that are born die in the first year, that rate begins to reach the irreducible minimum. Possibly, however, further improvement in prenatal care and in the mechanism of childbirth will bring a reduction even in the rate of 29.

"More and more is being done to control the infectious diseases of childhood. Much can be done to eliminate the accidents now responsible for carrying away many people unnecessarily. Accidents of all types are now fifth in the list of the causes of death. Such adverse influences can be controlled by intelligent human beings.

"Most important in prolonging life after 50 are sound rules of diet and personal hygiene. . ."

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of

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Vol. 12, No. 6 **Montgomery, Alabama** **December 1942**

SAFETY IN INTESTINAL SURGERY*

By

T. BRANNON HUBBARD, M. D.

Montgomery, Alabama

Surgery offers the only hope of cure in malignancies of the bowel. The same applies to intussusception and most cases of intestinal obstruction. In all of these conditions, success depends on operating early enough—on the one hand before the growth has metastasized or spread too far, and on the other before the patient has become too exhausted from the obstruction.

In cancers of the colon, there is some alteration of the bowel function in nearly all cases—constipation, diarrhea, cramps. In carcinoma of the right colon, anemia is a frequent symptom, usually associated with pain. In the transverse colon, indigestion and colic; in the left colon, constipation and diarrhea with colic. In the rectum there are abnormal stools, blood, mucus or pus, but obstructive symptoms are late.

There are a number of factors which are responsible for the delay in diagnosing and treating carcinoma of the colon and rectum. Perhaps the most important is the slowness on the part of both patient and doctor to realize that change in bowel habit and bleeding may mean a new growth—regardless of age—and these symptoms cannot always be explained as constipation, colitis, or hemorrhoids.

The lack of interest on the part of the physician in making a digital or proctoscopic examination is to be deplored since 60 per cent of carcinoma of the large bowel occurs in the rectum. In a hundred cases Lahey states that the tumor could be felt in all cases except six. A few years ago I operated on a young woman for what I thought was a small fibroid on the back of the uterus. She had been operated on in Birmingham for supposedly pelvic trouble without relief. She then spent three weeks in Johns Hopkins Hospital where presumably no diagnosis was made. When I operated, I was surprised to find a small carcinoma of the rectum adherent to the uterus. None of us had made a rectal examination.

It is becoming customary to subject patients to x-ray examination for almost any symptoms referable to the gastro-intestinal tract. But in my experience, as performed in most offices and clinics no laboratory examination is more misleading. When we realize that an x-ray picture is only a shadow, and when this shadow is thrown by rapidly moving organs that overlap one another, as do the loops of intestine, there is no wonder that growths are overlooked and filling defects seen where none exist. Only by careful fluoroscopic examination can an accurate diagnosis be made, and this often has to be repeated, especially in the case of the cecum and sigmoid.

To a large percentage of the laity, cancer means death. This belief is the greatest obstacle that we have to fight in curing cancer in any part of the body, and is responsible for much of the delay in coming to a physician. On the other hand, I feel sure that there are many physicians who do not realize that statistics from some clinics show a 40 to 50 per cent five-year cure in carcinoma of the colon and rectum.

Finally, many patients refuse to submit to operation for cancer of the rectum and are so advised by their physicians out of horror at the idea of having a permanent colostomy. A permanent colostomy, when properly performed and managed, is not in any way objectionable nor does it interfere with one's work or social activities.

*Read before the Association in annual session, Montgomery, April 22, 1942.

All doctors are artists of sorts, and, as such, we like to do a finished, workmanlike job. But it was learned long ago that by a two-stage prostate operation many lives could be saved. The same principle, though more tedious, is used in plastic and other fields of surgery. It makes no difference how beautiful an anastomosis one makes, if the tension, which one cannot control, bursts the stitches, the patient is lost.

In resections of the large bowel the preponderance of opinion today is in favor of either a ileostomy or colostomy so that the portion of the bowel to be resected can be put at rest and thoroughly evacuated, or of some modification of the Mikulicz technique.

In excision of the right side of the bowel where no obstruction exists, a one-stage primary resection may often be successful and when it is, it is a most gratifying operation.

Some years ago I operated on a woman for an intussusception, removing the terminal portion of the ileum and the ascending colon, making an anastomosis between the ileum and the transverse colon. She did nicely following the operation, but several days later she became suddenly ill and died. Autopsy disclosed that the end of the ileum had blown out.

It is not generally recognized that resection of any part of the intestine with primary resection in the presence of obstruction is liable to be disastrous and should never be done. Either one should perform a preliminary ileostomy or colostomy or use the so-called Mikulicz technique. This operation was originally applied to the sigmoid which is easily mobilized; but as any part of the colon can be mobilized, the same principle may be used, thus avoiding the danger of leakage and peritonitis. Lahey performs the Mikulicz type of operation for practically all resections of the large intestine. Ladd warns that in doing such an operation on children for an intussusception, one should put on the crushing clamps very early as little children do not stand the loss of fluids from the ileum well. I have twice, in cases of intussusception in adults, closed the end of the colon and done an anastomosis but bringing out the unclosed end of the ileum for safety.

There is a point in the sigmoid below which the bowel cannot be freely enough mobilized to bring out a loop of gut safely. One may perform a preliminary colostomy and then resect the lower sigmoid, doing an end-to-end anastomosis.

But I am inclined to believe that in the hands of most surgeons it is safer to do an abdomino-perineal resection, either in one or two stages, leaving a permanent colostomy. In other words, in all cases of carcinoma of the rectum, and even in diverticulitis of the lower sigmoid where the growth is so low that the loops of bowel cannot be easily brought together without producing a marked angulation, it is safer to make an artificial anus and then remove the growth. This can be done from above if the growth is well above the pelvic floor; or can be removed at the same time by combined abdomino-perineal resection; or in two stages, either according to the Coffee or Lahey technique.

In carcinomas of the rectum and rectosigmoid, I am convinced that any form of perineal resection is not only an unsatisfactory operation as far as removal of the growth is concerned but leaves the patient in a much less comfortable condition than one with a permanent abdominal colostomy.

In speaking of intestinal surgery, one cannot omit a word as to the diagnosis and management of acute obstruction.

The mortality in intestinal obstruction comes chiefly from the diagnosis being made too late and too much being attempted at operation for its relief. We should be most careful in any abdominal operation to get complete peritonealization, but despite our efforts there will be a certain percentage of postoperative adhesions and obstructions. I am very skeptical of the diagnosis of adynamic ileus. An x-ray plate showing the obstruction and reopening the abdomen will disclose an organic obstruction. In the case of a very ill patient, it is better to perform a simple enterostomy.

The technique of intestinal surgery is not yet standardized. Every one of us who does abdominal surgery must be prepared to operate for any intestinal condition that he encounters. To do this, he should have in his surgical repertoire an operation that he can do with safety to his patient whatever the pathology is that presents itself in any particular case.

URINARY CONCRETIONS

I. OBSERVATIONS ON THE LABORATORY EXAMINATIONS OF URINARY STONES

By

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Recently, interest in the chemical structure of urinary concrements has been aroused. The laboratory physician is commonly requested to make analyses of calculi from the urinary tract. A review of data collected on urinary stones received and analyzed in the several clinical laboratories in Birmingham, Alabama, has seemed to be worthy of record. The calculi were obtained from surgical and postmortem sources. A number of the stones were voided and were submitted for chemical study by various urologists in this city.

EXAMINATION OF CALCULI

Gross Inspection: A careful physical inspection of stones may give valuable assistance in further analysis. In some cases gross observation alone may be entirely relied upon as an indication of the chemical nature of the stones. For example, the oxalate calculus has a crystalline structure which can be commonly seen with the naked eye and is always revealed with the hand lens or an inverted microscope ocular. The crystals are sharply pointed and appear as translucent, colorless or faintly yellow structures. These stones, although commonly colored various shades of black, always present these typical colorless or yellow crystals when viewed under magnification. Another characteristic of the oxalate calculus, which has proved most valuable, relates to the density of the stone. When a small calculus is shaken within a test tube a shrill metallic click signifies oxalate type. It has been observed that the click of other stones so shaken in a test tube is dull or cushioned. The sound imparted by oxalate calculi is characteristic and distinct.

The color of stones is occasionally helpful. Mixed (carbonate-phosphate) stones are white. Urate or uric acid stones are yellow to orange. Oxalate stones are yellow or brown, but more characteristically are black. There is a suggestion that the black pigmentation may be related to the content of rendered blood. Phosphate stones are gray to white.

The size is important. Small calculi consist nearly always of but a single salt, i. e., oxalate, phosphate or urate. Large stones almost invariably contain multiple salts, one of which is usually carbonate. Along with the size may be considered the shape, which may be a reflection of the structure. Crystalline oxalate stones are rough with spiny projections, or sharp ridges. Urate stones are smooth and very often globular. Phosphate stones are also smooth in many instances. Mixed phosphate-carbonate stones very often are moth-eaten or porous with areas of dense induration ("eburnation") of the surface. In the case of large stones the shape commonly conforms to the outline of the structure or organ wherein the stones are found. Thus, bladder calculi are rounded, ovoid, or flint-stone-shaped and their surfaces are polished and smooth. Stones from the kidney pelvis are casts of the pelvis and/or calyces. These are the large "staghorn" stones which are so well known. Of particular interest in the case of small calculi are the attachment facets or buds. These small pigmented or gray dots are the remains of an attachment to the renal papillae within which the primary (small) calculi develop.

The consistency of calculi is another physical character worthy of observation. The marked density of oxalate stones has been mentioned. In contrast, phosphate-carbonate stones are crumbly or pulverant. Pliable stones are rarely observed. These belong to a group variously defined as protein, colloid, bacterial, fibrin or albuminous stones. They appear to be coagulated exudates deficient or practically devoid of salt components. Where multiple calculi are found they may show polished angulated or facetted surfaces which have resulted from rubbing against one another.

Lamellation or layering is a feature of large stones. These shales represent cyclic periods of growth and are seen in mixed varieties only. It is of interest that the soft (fibrinous) calculi exhibit this phenomenon.

A summary of the physical characters of urinary stones is given in Table I.

Chemical Analysis: Stones for analysis are first ground to a powder with the aid of a mortar and pestle. Portions of the pow-

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TABLE I
PHYSICAL CHARACTERS OF URINARY CONCRETIONS

Calculus	Size	Surface	Consistence	Color	Lamellae
Phosphate	small	smooth	medium hard	gray	
Oxalate	small	spiny	very dense	yellow to black	
Urate	small	smooth	medium hard	yellow to orange	
Mixed Forms (Phosphate-Carbonate and others)	large	eroded	compressible	white (chalky)	present
Soft	large	smooth	pliable	gray	present

dered stone may be examined by the various qualitative tests. Quantitation of the various constituents is rarely desirable. If the amount of powdered material is limited it may be desirable to apply certain tests as will be indicated by the physical qualities of the stone.

If the amount of material permits, the following scheme of analysis has proved practical. A portion of the pulverized stone is placed in a small serologic test tube. The powder is covered with about 1 cc. of concentrated hydrochloric acid. If the powder dissolves, it contains either phosphate, oxalate or carbonate. The carbonate dissolves in hydrochloric acid with the evolution of gas. When this observation is made, about 1.5 cc. of concentrated nitric acid are added. The mixture is then diluted with 3 or 4 cc. of distilled water. The content of the tube is mixed by inversion. To the mixture are added about 3 cc. of a saturated aqueous solution of ammonium molybdate. A fine yellow precipitate forms in the presence of phosphates.

A second portion of the powdered stone is placed in another small test tube and about 2 cc. of approximately 2-normal sulphuric acid are added. The tube is then heated to about 60 degrees C. and to the hot mixture is added, drop by drop, a dilute aqueous solution of potassium permanganate. If the mixture effervesces and the permanganate is decolorized, oxalate is present.

If the powdered stone does not dissolve in the hydrochloric acid, it may contain urate, xanthine or cystine. A third portion of the powdered stone is placed in a porcelain crucible to which is added 1 or 2 drops of concentrated nitric acid. The crucible is then heated until the residue is dry. In the presence of urates the residue turns red, and may be changed to purple upon the addition of a drop of concentrated ammonium hydroxide. A yellow residue, which upon the addition of a concentrated solution of sodium hydroxide turns to a bright red, indicates xanthine.

A fourth portion of the powdered stone is placed in another small test tube to which is added 1 cc. of distilled water and 1 cc. of concentrated ammonium hydroxide. The mixture is shaken to effect solution. Then, 2 cc. of a 5% solution of sodium cyanide in 4% ammonium hydroxide are added and the mixture is allowed to stand for 5 minutes. Upon the addition of a few drops of freshly prepared aqueous sodium nitroprusside solution the mixture assumes a stable magenta color when cystine is present.

Tyrosine of the protein stones may be identified by overlaying a fragment of the stone with Millon's reagent. (Millon's reagent is prepared by dissolving 1 part of mercury by weight in 2 parts of concentrated nitric acid and diluting to twice its volume with water. Allow the precipitate to settle and use the supernatant liquid.) When heated, or if allowed to stand for a while, with the Millon reagent, the stone fragment turns red. If the soft stone is fresh and has not been fixed in formalin or other such fixatives, it may be digested with pepsin. The digestant is examined for metaproteins by carefully adding sodium hydroxide until the digestion mixture is neutralized. Metaproteins separate as a white flocculent precipitate at the neutral point. A biuret test on the supernatant fluid is also positive when the protein has digested. The biuret test is made by addition of 2 cc. of 10% sodium hydroxide to 2 cc. of the supernatant liquid and a drop of 0.5% copper sulphate solution. This material is mixed by inversion and more of the copper sulphate is added, drop by drop, until a pink or violet color develops or until a precipitate of copper hydroxide is formed. It may require 15 or 20 minutes for the pink color to develop.

RESULTS OF ANALYSIS

The ages of the patients from whom the concretions were obtained ranged from 3

TABLE II

THE ANATOMICO-CHEMICAL DISTRIBUTION OF URINARY STONES, BIRMINGHAM AREA

	Primary Group					Secondary Group					
Location	Uric Acid	PO_4	C_2O_4	Cystine	*Total*	Fibrin	PO_4-CO_3	C_2O_3-PO_4 & CO_3	C_2O_4 Urate	*Total*	*Grand Total*
Kidney	5	44	6		55	3	72	26	1	102	157
Ureter		21	12		33		11	15		26	59
Bladder	1	3			4		27	10		37	41
Urethra							1	1		2	2
Prostate							2			2	2
Voided	2	25	14	1	42		3	2		5	47
Totals	8	93	32	1	134	3	116	54	1	174	308

weeks to 86 years. Approximately 50.0% of the stones were obtained from patients between the ages of 20 and 40 years. The age incidences of primary and secondary stones are similar. The terms primary and secondary are used for purposes of discussion. A primary calculus is one which forms only within the kidney and always contains only one type of insoluble urinary salt. The secondary stone may form in any portion of the urinary tract and always contains multiple salts. The secondary stone is aggravated by, if not formed, as a result of other urinary tract lesions; for example, infections and foreign bodies. There were 235 males and 73 females.

The anatomico-chemical distribution of the stones is shown in Table II. There is a distinct difference in the frequency with which the primary and secondary stones occur in certain portions of the urinary tract. The primary calculi often pass into and obstruct the ureter; they rarely stop in the bladder and are commonly voided. The oxalate stones, particularly, are liable to lodge in the ureter. The secondary stones, on the other hand, occur in the kidney pelvis or in the bladder. These are dilated portions of the urinary tract. The secondary stones were commonly associated with definite infections (pyonephrosis) and in 3 instances there were bladder carcinomas. Primary stones formed the nucleus of a few large concretions, particularly in the oxalate-phosphate-carbonate group. Five of the bladder stones were deposited about foreign bodies; namely, chewing gum 2, toilet paper 1, wood splinter 1, and surgical suture 1. In each of these foreign bodied-calculi the salts deposited were phosphates and carbonates. There were 3 fibrin or soft stones which were all found in the kidney. These were associated with infection in each case.

SUMMARY AND CONCLUSIONS

1. A method for analysis of urinary calculi is described.

2. The results of analysis of 308 calculi from patients in Birmingham, Alabama, is summarized and tabulated.

3. Urinary calculi may be divided chemically into two groups, pure salt and mixed salt calculi. These correspond to the clinical groups of primary and secondary calculi.

4. The primary calculi are small, and because of their size may pass through the urinary tract or, may, in their passage, lodge in the ureter.

5. The secondary calculi are large and occur almost entirely in the dilated or static portions of the urinary tract. They may occur in sinus tracts or in abnormally dilated or deformed portions of the urinary tract. They are commonly associated with infections and are deposited about foreign bodies.

The Pathologist—One finds this group of anonymous doctors imbued with devotion to service. This is, after all, their reason for existence, should be the chief objective of their policies, and the standard by which their worth as physicians is to be evaluated. Their work and responsibilities are held with affection—at times with a fervor amounting almost to jealousy. Too many of them wear out. Their dead bodies bear evidence of overwork rather than overindulgence.

The competent pathologist is an artisan as well as a scientist. As a physician, his duties, too, center upon the prevention and alleviation of suffering and disease. He has no anatomical limitation, knows all tissues and their diseases, and should be the most versatile of all medical men, for he is in need by all departments and specialties. Training, personality, achievement, promise, and ability to do team work and assume leadership are his prerequisites.—*Neal, South. M. J., December* '42.

A CLINICAL EVALUATION OF THE ERYTHROCYTE SEDIMENTATION RATE*

By

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The blood may be considered as a suspension of corpuscles in plasma. In 1918 Fahraeus,[1] seeking a test for early pregnancy, found that the speed of sedimentation of the erythrocytes was not only accelerated in this condition but in many diseases. While the principle involved in the use of the erythrocyte sedimentation rate is simple, and its value as a laboratory aid in clinical medicine is now recognized, it has not found the widespread application in clinical medicine to the extent in which its use is justified. This is undoubtedly due to the numerous methods employed or advocated through differences in the use of various types of tubes of different lengths and calibre; of the many anticoagulants proposed; of the differences in the frequency of readings or measurements, and the various plans advocated for recording results. Consequently, considerable confusion has arisen which has caused many to regard it as a difficult technical procedure.

PRINCIPLE

When blood containing an anticoagulant is placed in a graduated tube of small calibre, the cells settle, leaving a clear plasma. This sedimentation is more rapid in disease than in health, and a measurement of its rate is of value in diagnosis and prognosis. This is particularly true in serious infections and toxemias. While not specific or infallible it furnishes a simple and reliable method of proving or disproving the presence of toxemia, or of verifying the patient, and of recognizing complications.

CHOICE OF METHOD

Essential differences depend upon the type of tube used, whether it be the Cutler, Walton, Wintrobe, Westergren,[2] Brooks, Fahraeus, the Schiller modification of the Fahraeus-Westergren, or the more recent Hellige-Vollmer type. All of these have been subjected to clinical trial by a number of competent investigators and their merits or shortcomings set forth.

The scope of this paper does not call for a discussion in this particular, except that it may be stated that in the hands of the clinician the method used should be comparatively inexpensive, simple and accurate. While it is desirable to select one or two procedures that in the hands of the experienced have given satisfactory results, it would seem more desirable if a standardized method could be adopted following recommendations of a referee board of clinicians and clinical pathologists in order to make results comparably uniform. This would eliminate much confusion in interpretation and perhaps lead to a broader adoption of this valuable clinical laboratory aid. Of the methods in use, however, it is not amiss to briefly consider several. The Cutler tube fulfils the requirements stated above and, according to Herrmann,[3] finds widest clinical use. This holds 1 cc., is 5 mm. in diameter, is marked in mm., with the zero at the 1 cc. level and the 50 mm. level at the bottom. Since the concentration of the blood affects the rate, the use of the hematocrit tube of Wintrobe is desirable where the volume of packed cells is to be determined.

A modification of the Westergren method is preferred by some. This utilizes a pipette holding 1 cc., graduated from 0 to 200 mm. All of these types are dependent upon venous blood, except the Schiller modification of the Fahraeus-Westergren and the Hellige-Vollmer which are micropipettes, offering the advantage of obtaining blood from the finger or ear. They are conveniently applicable to infants and children, reliable as regards results, cost little, and are simple and easily adaptable. Results obtained by Hirsh[4] in 488 determinations on 395 patients using the former method and by Goldberger[5] in 304 determinations using the latter confirmed the reliability of these tests in their hands.

*Read before the Association in annual session, Montgomery, April 21, 1942.

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1. Fahraeus, Robin: Acta med. Scandinav. 55: 1-228, 1921, quoted from Wintrobe.[6]

2. Westergren, Alf: Acta. med. Scandinav. 54. 247-282, 1921.

3. Herrmann, George: Textbook of Clinical Pathology, edited by R. R. Kracke, Baltimore, Wm. Wood and Co., 1938, p. 147.

4. Hirsh, Joseph E.: Ann. Int. Med. 10: 495-503, 1936.

5. Goldberger, E. W.: J. Lab. and Clin. Med. 25: 6, 657-660, 1940.

NORMALS AND VARIABLES

Normally, females exhibit a slightly higher rate than do males, probably because of the lower red count in females. In women a drop of 2 to 15 mm. and in men, 2 to 10 mm. in one hour is considered normal when the blood column is 50 mm. high. At the end of an hour, if there has been more than 20 mm. sedimentation in the female and more than 10 mm. in the male, a careful search should be made for disease somewhere in the patient. The rate not only differs according to sex, but, likewise, the type of tube. Cells settle more rapidly in a tall column of blood than they do in a short one. In the Wintrobe[6] tube, 100 mm. high, cells of normal blood will settle 20 mm., while the same blood in a 50 mm. column, such as the Linzenmeier[7] or Cutler,[8] will settle about 10 mm. in one hour. However, the percentage of cell fall in each whole column of blood is usually similar during a given time.

The diameter of the tube matters little. In tubes of 2.5 mm. diameter, the boundary zone between cells and plasma may not be as clear as in tubes of larger diameter and occasionally the cells may settle at a slightly more rapid rate. The difference, however, is negligible.

That the rate is dependent upon the type and amount of anticoagulant used is well established. Heparin, a phosphatid produced in the liver, and hirudin, an extract from the salivary glands of the leech, are considered to be the best since they have little or no influence upon the rate; but their expense and scarcity preclude their use in routine determinations.

Inorganic salts as anticoagulants retard the rate in proportion to the amounts used. According to Nicholson,[9] sodium citrate and potassium oxalate in amounts advised (approximately 0.3 per cent of the blood volume) will lessen the rate about 2 mm. in one hour, which is negligible, while larger amounts of these salts and especially sodium fluoride, as advised for blood sugar, arrest cell settling to the extent that it becomes useless. Recently, Berg,[10] who has made a detailed study of the use of anticoagulants, concluded that blood citrated according to Westergren's method shows sedimentation rates which are consistent for at least four hours; blood mixed with dry oxalate in minimal quantities, i. e., 2 mg. (0.2%) per cc. of blood, will show rates which are fairly reliable only if performed without delay: that sedimentation rate determinations made with oxalated blood are absolutely unreliable if the delay between oxalating and testing is an hour or longer, and the longer the delay, the greater the incidence and degree of error. He recommends that in large institutions where it is desirable to include the sedimentation rate in routine blood determinations, and where heavy laboratory schedules make immediate examination impractical, more accurate results will be obtained by distributing tubes containing 0.5 cc. of 3.8 per cent sodium citrate solution and having 2 cc. of blood syringed into the container at the time blood is drawn for the other determinations. Bannick, Gregg and Guernsey[11] at the Mayo Clinic have used this routinely with the modified Westergren tube, recording readings at the end of one hour. They highly recommend its use.

Other factors influencing the test are inclination of the tube, which should be maintained in a vertical position since cells settle more rapidly where the tube is inclined. This is explained by the fact that the plasma streaming along the upper side of the tube, from which red corpuscles have already settled, offers less resisting force to settling. This physical principle is made use of in the angle centrifuge. Temperature, likewise, affects the rate; it is increased by heat and decreased by cold. The tubes should be kept at a temperature of not less than 22 degrees C. or greater than 27 degrees C. while readings are being taken. If blood has been kept in the refrigerator it should be warmed to the above temperature before use. This requirement is usually met without difficulty, but during warm weather it is advisable that readings be made in a cool place such as a basement, or that a small water-cooled compartment be made for that purpose.

The question of corrections in anemia has often arisen. Bannick[11] states that while

6. Wintrobe, M: M.: Clinical Hematology, Philadelphia, Lea and Febiger, 1942, p. 183.
7. Linzenmeier, G.: Zentralbl. f. Gynak. 46: 535-542, 1922.
8. Cutler, J. W., and Cohen, Louis: Amer. Rev. Tuberc. 21: 347, 1930.
9. Nicholson, Daniel: Laboratory Medicine, p. 47, 1934.
10. Berg, Samuel: Lab. and Clin. Med. 24: 757-764, 1938.
11. Bannick, E. G.; Gregg, Robert, and Guernsey, C. M.: J. A. M. A. 109: 1257-1262, 1937.

there is no doubt that this factor has an accelerating effect on the rate, in his experience the rate, in general, is not quite as fast as the dilution experiments would indicate and that the various corrections for anemia tend toward over correction. Stokes,[12] quoting Amborse McGee, states that an attempt to correct for this condition is unnecessary since anemia is a part of the clinical picture. It should be taken into account, however, in evaluating readings.

From the above considerations it is not difficult to understand how confusion as to method may arise. Conclusions drawn from personal experience are that where the clinician is faced with an occasional determination, the Cutler tube offers all that is to be desired. Employing this type of tube, the writer has followed, with complete satisfaction, the technic described by Herrmann[3] with slight modification in the amount of blood drawn and the amount of anticoagulant used. Two cubic centimeters of blood are used instead of 5. A 2 cc. hypodermic syringe, graduated in 1/10 mm., and a 23-24 gauge needle are sterilized in the autoclave and dried in the hot air oven.

A dry oxalated vial is previously prepared by adding 0.2 cc. of a solution containing 0.8 gms. of potassium oxalate and 1.2 gms. of ammonium oxalate dissolved in 100 cc. of distilled water. After this solution has evaporated in the drying oven the vial will contain 1.6 mgs. of solid potassium oxalate and 2.4 mgs. of solid ammonium oxalate, the amount necessary to prevent coagulation of 2 cc. of blood without shrinking of the volume of packed red cells and without alteration of the sedimentation rate.

The patient's arm should be prepared for a venipuncture and the constriction applied at the last minute so that venous stasis is of short duration only. Two cubic centimeters of venous blood are then collected in the usual manner and mixed in the oxalated vial. One cc. of this mixture is used in the test. A red, white, differential and hemoglobin determination may be made with the balance, being careful to mix well before each determination. If clotting occurs, a fresh sample must be obtained. The sedimentation rate is best run at once, but always within an hour from the time of collection and never after four hours.

12. Stokes, J. B.: Illinois M. J. 75: 3: 236-242, 1939.

READINGS

With the many different methods in use, interpretation of readings may also become somewhat confusing unless the method used is stated and there is complete familiarity with the same. While results are not quantitatively transferable from one method to another, the degree of increase in rate will be roughly proportional in all. Approximately, one may assume that where readings are made on columns of blood 100 mm. high, as with the Wintrobe tube, the rate will be twice that of a 50 mm. column such as the Cutler tube.

Nicholson[9] recommends recording the cell drop every ten minutes for one-half hour to an hour. Cutler and others prefer to chart a graph of each ten-minute recordings. This shows any change in velocity, especially the quick drop in the first twenty minutes which is so indicative of disease. It likewise offers opportunity for visual comparison of successive readings over a time period. In the original Cutler technic,[8] readings are taken at five minute intervals the first half hour and every ten minutes for the last thirty minutes. Using the Cutler technic, Stokes[12] recommends one reading at the end of one hour. Bannick, Gregg and Guernsey,[11] using the modified Westergren tube, recommend a single reading at the end of one hour while Osgood,[13] using the same, favors a reading at fifteen and forty-five minutes, respectively. The writer personally prefers the graphic recording of ten-minute readings for one hour. However, for the busy clinician, a single reading at the end of one hour will certainly differentiate the abnormal from the normal and save considerable time.

USES AND INTERPRETATIONS

So much has been written with respect to the value of this simple procedure that time and space do not permit of a full discussion and an evaluation of it in the numerous references contained therein. An increased rate is not indicative of any one condition or disease process. It is evidence of the reaction of the host to the presence of tissue changes, or to the residual changes of disease. In acute inflammatory conditions the rate is usually directly proportional to the extent and severity of the inflammation. Bannick, Gregg and Guernsey[11] state that it is often a

13. Osgood, Edwin E.: Arch. Int. Med. 64: 105-120, 1939.

more accurate guide to the activity of disease than the white count or temperature curve. In diseases of long duration it remains increased after the leukocytes and temperature have returned to normal, sometimes taking several weeks and even months after the febrile condition has subsided. This is nature's safeguard, in some instances, in keeping the patient inactive whereby he is not allowed to be up and about until a normal rate is reached and maintained over a period of successive determinations. This is particularly applicable in acute rheumatic fever and certain streptococcal infections.

In acute uncomplicated appendicitis, Lesser and Goldberger[14] and Bannick, Gregg and Guernsey[11] have found that the rate is not increased. It is likely due to localization of a small area at first, because the rate is increased when rupture and extension to surrounding structures occur. For that reason the sedimentation test may be of value in differentiating an acute unruptured appendicitis from other acute abdominal and extra-abdominal conditions.

Readings for one week after a surgical operation show an increased rate due to tissue trauma and absorption. If the rate continues high after the first week, it indicates an infectious complication.

Pregnancy is the only physiologic process which produces a significant increase in the rate. After the third month and for the first two weeks of the puerperium, readings are useless as an accelerated rate cannot be attributed to infection. Contrary to the opinions of some, Stokes[12] states that it has been his observation that menstruation has no effect on the rate.

One should not be misled by false interpretations where the rate is normal in the presence of clinical symptoms, for, as Bannick, Gregg and Guernsey,[11] Nicholson,[9] Stokes[12] and others point out, the rate is not influenced in many diseases. A normal sedimentation rate in a case in which the evidence is of functional disorder gives the physician reassurance; as it does also in a case of questionably active tuberculosis, of systemic infection, or of back pain when the patient is elderly and might have metastatic cancer. On the other hand, the physician occasionally may be unable to find the cause of an increased rate even after careful study. Here he must rely on his clinical judgment for a time at least, and assume that the increase is a correct indication of some abnormality, with continual follow-up of the patient until the cause is determined or the rate returns to normal.

There is no chronic inflammatory disease in which the sedimentation rate finds such widespread application as in tuberculosis. It is a routine procedure on all patients admitted to most tuberculosis sanatoria. There is a close correlation between the sedimentation rate and the virulence and intensity of the disease, rather than in the anatomic extent of the lesions. The rate is an index of the activity of the tuberculous process and a check of the degree of success attained in the control of the process by pneumothorax. Stokes[12] calls attention to the fact, however, that a well walled-off tuberculous process, even in the presence of cavitation and positive sputum, will be accompanied by a normal or nearly normal sedimentation rate. He states further that in many moribund tuberculous patients he has observed that the rate may return to normal or practically so before death.

Other conditions affecting the rate, of which, for lack of time, only mention may be made, are mastoiditis, suppurative sinusitis, empyema of the gallbladder, pneumonia, endocarditis, infectious fevers in general, syphilis, and malignancy in all but early stages. Another instance in which the test may prove valuable is in the examination of cases in outpatient clinics, and of large or small groups of factory employees. A definite increase in the rate indicates the presence of some abnormal process. A second group comprises hypochondriacs and malingerers. In this group normal rates are reasonably indicative that no infectious process or toxemia exists.

In conclusion it may be stated that, while the erythrocyte sedimentation test is not infallible and does not displace the total white and Schilling counts, it is often an accurate guide as to the activity of a disease process, and that a significant increase in rate, except in pregnancy, indicates the presence of an abnormal process. Further, with the fundamental facts in mind regarding its use and the employment of a simple inexpensive procedure, it should continue to increase in value as an extremely useful and informative laboratory aid in clinical medicine.

14. Lesser, A., and Goldberger, H. A.: Surg., Gynec. and Obst. 60: 166, 1935.

RAPID TREATMENT OF EARLY SYPHILIS WITH MULTIPLE INJECTIONS OF MAPHARSEN*

FIVE-DAY TREATMENT

By

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Each succeeding campaign against venereal disease has emphasized more clearly the importance of a vigorous attack upon early infections. It has long been evident that one reason for the increase of incidence of these diseases has been the spread through contact with infected individuals during the early stages of their infection. The fact that many persons contracted syphilis quite innocently was an important wedge utilized in public educational efforts. Acceptance of the fact that syphilis and other venereal diseases are properly classified as communicable naturally puts them in the category of public health.

Education has already done much, placing more venereal disease patients under treatment and increasing the percentage of adequately treated cases. This has at least lowered the incidence of infectious relapses and has undoubtedly accomplished a greater percentage of cures.

The tempo of modern times being what it is we are not willing to accept the slower methods of even a decade ago. For years modern syphilologists have devoted considerable effort toward developing methods which would not only increase the percentage of cures but also shorten the time required for treatment.

The earliest attempts along these lines failed for various reasons. Among the most important of these was the fact that, although with the drugs then available rapid cures had occasionally been observed, the massive doses necessary to accomplish this caused so many toxic manifestations and fatalities that general acceptance was impossible.

Interest in intensive or massive dose arsenotherapy has been kept alive with sporadic experimental studies both in Europe and America ever since it was admitted that Ehrlich's dream of *therapia sterilisans magna* with one dose of 606 was not to be realized.

Therapeutic success was seen in some of the earlier experiments of Hoffman, Pollitzer and Fordyce. New impetus was given this work by Hyman, et al., who removed from the problem the hazard of speed shock, and followed this study with a series of patients treated with neoarsphenamine by slow continuous drip. They obtained clinical results more satisfactory than those recorded by the Cooperative Clinical Group using routine therapy. The high percentage of serious reactions, notably peripheral neuritis (37%), and fatalities was discouraging though the total dosage with neoarsphenamine did not exceed 4.5 grams.

When mapharsen was introduced, this same group of clinical investigators was quick to realize that this comparatively nonreactive potent arsenical might be the answer to their problem and another study utilizing mapharsen in the treatment of early syphilis was instituted. Their first series of 275 cases showed 100% apparent cures in the sero-negative primary group, 90% in the sero-positive primary, and 84% in secondaries. Serious reactions occurred in only 4 or 5% of patients and there were no fatalities. Naturally, with such results as these, the entire medical world felt that this method of treatment had many things in its favor. From a public health standpoint intensive arsenotherapy takes the infectious syphilitic out of circulation during the period when he might easily spread the disease, and the percentage of cures is definitely higher than with any of the routine methods. In addition, every patient receiving intensive therapy is kept under treatment until he has completed the prescribed course, which is of great importance when one considers that over 80% of patients taking routine therapy fail to receive adequate treatment. Workers in this field are agreed that the major problems in any campaign against syphilis are quickly locating the infectious cases and placing them under control. The spectacular nature and the public appeal of a 5-day cure bring more early cases to the physician than any coercive laws, regulations or restrictions. The physician to whom a recently infected syphilitic reports can be instrumental in gaining full cooperation, and whether or not the 5-day

*Read before the Northwestern Division of the Association, Haleyville, May 27, 1942.

From the Urologic Department, Hillman Hospital, Birmingham.

drip or any modification of intensive arsenotherapy is used can make certain that the infected individual is adequately treated. In addition, because of the fact that there has been a recent exposure, the chances of locating sources and contacts, because of the time element alone, are immeasurably increased.

The general rules of technic established by the New York group in the original project at Mt. Sinai Hospital are as follows:

1. Each 60 mg. of mapharsen is dissolved in 600 cc. of sterile 5% dextrose solution. A reservoir of this solution is maintained in the cylinder of a gravity drip apparatus. (If a commercial gravity infusion outfit is employed, the total daily dose of 240 mg. of mapharsen is dissolved in 2 liters —2000 cc.—of 5% dextrose solution.)
2. A 20-gauge 1½ inch needle is inserted to the hilt in an accessible vein, preferably in the forearm. (Antecubital vessels are avoided.)
3. The rate of administration is regulated to approximately 50 drops (2-3 cc.) per minute.
4. Continuous drip is maintained until the daily dose of 240 mg. of mapharsen in 2000 or 2400 cc. of 5 per cent dextrose solution is administered. The time required is from 10 to 12 hours.
5. Treatment is discontinued each evening and resumed each morning for 5 consecutive days. During this time, a total dose of 1200 mg. of mapharsen in 10,000 or 12,000 cc. of 5 per cent dextrose solution is given.
6. Patients are kept in the hospital for at least 2 days following termination of treatment.

These rules appear so simple that many physicians have wondered why five-day drip therapy should not be available to every patient with early syphilis.

There are many unsolved problems arising in the application of continuous drip arsenotherapy that preclude its universal adoption, among which the most important are the proper selection of patients, exceedingly meticulous pretreatment examinations, complete laboratory studies before, during and after treatment, constant observation, and complete clinical records by experienced nursing and medical staff. Careful and exact interpretation of symptoms and minor reactions with proper dosage adjustment to individual tolerance (which varies from day to day) are prerequisites for success with intensive arsenotherapy in any form.

Our patients are first given a careful physical examination, darkfield, examination of lesion, Wassermann, spinal puncture and examination of spinal fluid, complete blood examination, including chemistry, and a urinalysis. The icterus index is also determined. While the patient is taking treatment, a complete blood examination is done daily, as well as a urinalysis and an icterus index. Our hospital records will show that we have had no changes in the blood examination, and that the icterus index and urinalysis remain normal. A complete blood examination, including chemistry and a Wassermann is done before the patient is dismissed.

The Venereal Disease Division of the U. S. Public Health Service, fully cognizant of these facts, decided to establish several centers where a large number of patients could be treated independently by groups, each properly equipped to do all necessary laboratory work and follow up for a sufficient time to properly evaluate the method before recommending widespread acceptance.

This study has now been carried on for over two years and approximately 2,000 patients with early syphilis have received intensive arsenotherapy in accordance with the program set up by Hyman and others. At the same time, approximately 1,000 patients have been treated by certain modifications of the original technic. Some of these are a direct modification of the drip and others are with multiple syringe technic.

A recent progress report by Dr. D. C. Elliott presented a rather formidable list of reactions observed. While the percentage of serious reactions was still very low, it was 3 or 4% higher than in the original Mt. Sinai project. The mortality rate, which was zero in the first small series, was 0.3%. It will be noted, though, that the public health group gave a reaction incidence of 94%. In other words, 94% of the patients receiving this intensive five-day drip therapy showed some sort of reaction. Hyman, however, made a very good point in regard to reactions in his statement that "In massive-dose arsenotherapy, the patient is institutionalized and all complications can be noted and recorded; in routine therapy the patient is ambulant and toxic phenomena may not be observed or tabulated."

With the close scrutiny to which these hospitalized cases are subjected, many minor reactions of no particular consequence are recorded but in a study of this character this is absolutely essential in order to determine, if possible, some way to recognize symptoms which may be prodromal to the more serious cases. It is particularly im-

portant to keep in mind the very complete record thus obtained when comparing reactions following intensive arsenotherapy with those occurring after ordinary syringe routines. Of course, a complete and careful analysis of these reactions is essential for anyone even considering attempting to treat patients in this way.

A cursory comparison of the tabulation of reactions reported by Hyman, Chargin and Leifer in the original New York (Mt. Sinai) mapharsen five-day drip series and those reported by Elliott and others as occurring in the U. S. P. H. S. midwestern clinical group series appears to show wide discrepancies. Careful analysis, however, shows that this is not true but it does demonstrate clearly that proper interpretation and exact understanding of the details involved are essential for proper conclusions. A combined chart of these tabulations follows:

	U. S. P. H. S. Series (Elliott)	New York Series (Hyman)
Reactive cases	91.2%	Not totaled but estimated about 75.0%
Primary fever	39.3	39.0
Secondary fever	24.0	13.0
Toxicodermas	8.6	12.0
Pain in arm	49.4	Rarely noted.
Nausea	67.8	Frequent but not tabulated.
Renal damage	0.6	Transitory albuminuria, hematuria and cylindruria frequent.
Liver damage	9.9	
Neuritis motor	0.4	0.7
Sensory only	4.5	0.0
Cerebral mild	23.2	1.7
Serious—fatal	0.4	0.37
non-fatal	0.4	0.0
Others	3.0	0.73
		0.0

The most frequent reactions are gastrointestinal, nausea and vomiting being observed at some time in the majority of those patients receiving five-day drip (nearly 70% Elliott and "very frequent" but not recorded by Hyman). No attempt is made to differentiate between real and psychic reactions. Cutaneous reactions or mild toxicodermas were recorded in some 12% by Hyman and 8.6% by Elliott; mild jaundice appeared in 0.7% but no true toxic hepatitis was recorded by either group although Elliott showed almost 10% with some liver damage. This, however, meant in many cases an increased icterus index which may or may not be of any significance. Toxic encephalopathy which may have been hemorrhagic encephalitis occurred in 1% with complete and prompt recovery in the Mt. Sinai group but 0.3% fatalities in the U. S. Public Health Service group. Cerebral symptoms (Elliott) mean mainly headache, a large number of which may easily be attributed to psychic causes.

Because of the well known fact that in ordinary dilutions with syringe technic mapharsen must be injected rapidly to avoid arm pain the question of incidence of this condition with drip therapy is often raised. It is extremely rare with proper technic. Pain in the arm as recorded by Elliott means discomfort from position of arm and not just "vein pain." Febrile reactions which are seldom recorded with routine therapy are observed in over 1/3rd. of the patients taking five-day drip therapy; 15 to 20% of the patients experience not only a primary (first day) but a secondary fever. This complication, however, unless showing a continued high fever, does not necessarily alter the plan of treatment. In cases where smaller doses are given for one or 2 days because of persistent high temperature, the difference in amount of the drug is usually made up by proportionate increases the following 2 or 3 days so that the total amount of 1200 mg. is administered within the normal five-day period.

With this resume' of the present status of intensive arsenotherapy, outlining the technical difficulties and some of the pitfalls open to the clinical experimenter, the work we are doing in private practice and at Hillman Hospital takes on an added interest. We have treated only early infectious syphilis according to the Mt. Sinai (five-day) technic (1200 mg. of mapharsen in 5% dextrose solution by continuous drip). Naturally we are as yet unable to draw any definite con-

clusions. Our observations must be continued for many months and premature conclusions as to the success or failure in specific patients or in our entire series as a unit must be postponed until we can properly coordinate our work with that of other independent clinical groups.

Likewise, the question of superiority of the original five-day drip with mapharsen or one of the modifications (such as the multiple syringe technic which I am now trying out both in private practice and in ambulatory patients at the Genitourinary Clinic of Hillman Hospital remains to be answered.

Out of the combined efforts of all interested clinicians and as a result of the studies now being made, we feel certain that some method of intensive arsenotherapy will evolve which will hold definite promise of shortening the period of treatment, obtaining more biologic cures, and reducing the incidence of the disease.

With the five-day drip, arsenotherapy, in curing 85 to 95% of early syphilis, offers, as a public health measure, an opportunity for the control of this infection that justifies the continuance of this work.

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SOME RECENT ADVANCES IN DIAGNOSIS AND TREATMENT OF TUBERCULOSIS*

By

E. J. TEAGARDEN, M. D.
Decatur, Alabama

In the past fifty years—one might say in the past twenty-five—our view of tuberculosis as a medical and social problem has undergone a complete change. Less than a generation ago a diagnosis of tuberculosis was practically equivalent to a death sentence. Today, though too many people still die of tuberculosis, this feeling of complete hopelessness has vanished. Not only can the individual case be cured, but it is not too extravagant to state that in another generation the disease can be conquered, just as smallpox, diphtheria and typhoid fever have been conquered.

The scope of a paper such as this does not permit an extended discussion of all the factors responsible for this change in attitude. We of the medical profession readily admit that forces beyond our control have done much toward decreasing the morbidity and mortality rates for tuberculosis. Among these forces might be mentioned improved economic conditions, with consequent better food, clothing, and housing; shorter working hours; and the rising educational level of the general population. Doubtless, modern ideas relative to the benefits of fresh air and sunshine have also contributed. In addition, however, to these factors which have developed, one might say spontaneously there are others no less important which are directly the result of planning, research and organization. Assuming that the social gains just mentioned will endure, it still devolves upon us as a profession to make full use of our modern knowledge of tuberculosis, and seek constantly to improve it. Only by so doing can we hope to eliminate this disease as an important cause of death and disability. It is my aim in this paper to discuss briefly some of the more recent advances in diagnosis and treatment of tuberculosis.

THE TUBERCULIN TEST

The tuberculin test, while not diagnostic of clinical tuberculosis, is still a valuable indication of recent infection with the tubercle bacillus. The word recent is used advisedly because it is now known that the individual's sensitivity to tuberculin can diminish and even disappear in the absence of reactivation by repeated doses of tubercle bacilli. A negative tuberculin test, therefore, does not entirely preclude the possibility of previous infection but indicates only a present state of non-sensitivity or energy. In theory at least, the tuberculin test may become alternately positive and negative several times during a lifetime. Aside from its purely negative value in differential diagnosis (negative tuberculin test equal no tuberculosis), the chief value of this test is probably that of a coarse screen in x-ray surveys for case-finding. By first using the relatively inexpensive tuberculin test on a population group, the x-raying of a considerable percentage can be avoided. In recent years the tuberculin patch test has achieved a limited usefulness, particularly in individuals who for one reason or another object to the use of a needle. Needless to say, a tuberculin test improperly performed is worse than none at all, since a false negative reaction

*Read before the September meeting of the Morgan County Medical Society at Decatur.

may permit a significant lesion to be overlooked.

Ever since the application of chest x-ray to the diagnosis of tuberculosis, expense has seriously curtailed the widespread use of this method. The use of paper films and of so-called miniature x-rays has reduced considerably the cost of x-raying large numbers of individuals, and also the time consumed in exposing and processing the films. It is true that a small percentage of significant tuberculosis is missed by these methods, but, on the other hand, several times the number of persons can be x-rayed at the same cost in time and money, and hence the total number of cases found is increased. With further improvement in technique and experience in interpreting miniature films the amount of tuberculosis missed will be very small indeed. In general, the paper films are less satisfactory than the miniature x-rays, which are really reduced photographs of the x-ray image on a fluoroscopic screen. There is still discussion over the relative merits of the 4x5 inch miniatures and the 35 mm. At the present time, the weight of opinion seems to favor the 4x5's which are now being used by the U. S. Army, though the Navy prefers the smaller size. The latter has the disadvantage of having to be magnified for interpretation.

Among other advances in x-ray diagnosis one might mention tomography, which permits selection of any desired depth in the chest for x-ray as a slice or frontal section, thus assisting in the accurate localization of cavities or other lesions.

At the present time the richest source of new cases of tuberculosis probably lies in what may be broadly termed mass surveys. These may be conducted by state, county or municipality, or by industrial firms, or other organizations. Because of limited funds and the consequent need for exploring the most fertile territory, certain population groups have been selected for special emphasis in the surveys. They are as follows:

1. Contacts: Members of a family or household of a person known to have tuberculosis should be x-rayed at intervals for at least several years even after the contact is broken.

2. Suspects: Patients referred for x-ray by private physicians because of suspicious symptoms.

3. Negroes and other racial groups in whom the incidence of tuberculosis is known to be greater than in the general population.

4. The indigent and those on relief: Tuberculosis morbidity is definitely higher in these groups than in the higher economic brackets.

5. Inhabitants of prisons, almshouses, and hospitals for the insane, in whom tuberculosis morbidity is notoriously high.

6. Employees of industrial firms, not so much because of increased tuberculosis morbidity as for the protection of the employer against compensation claims and as a public health measure for the benefit of fellow workmen.

In the field of treatment of tuberculosis, an outstanding achievement is the development of sanatoria all over the country. In the nearly sixty years since Dr. Edward Trudeau opened The Little Red Cabin at Saranac Lake, the number of sanatorium beds for tuberculosis has increased from zero to nearly 100,000. The need is far from being realized, except in a very few states. For the patient with not too far-advanced tuberculosis, sanatorium care offers the quickest, cheapest, and safest road to recovery. Even in far-advanced, hopeless cases, the sanatorium may well serve as a haven of refuge where the declining days may be spent in comparative comfort without exposing family and friends to the danger of infection. Unfortunately, sanatorium facilities are inadequate in most places to provide as complete a service as might be desired.

Modern sanatorium care connotes the use of compression therapy in a large proportion of cases. The addition of new procedures, and the improvement of technique in old ones, together with a better grasp of indications for the various types of compression have placed this method of treatment on a firm footing as our best available attack against tuberculosis.

TREATMENT OF TUBERCULOSIS

Artificial pneumothorax has been greatly extended in scope in the past decade alone. At first used for small unilateral lesions, it is now available for bilateral diseases as well. I can only commend the present tendency to use pneumothorax for active minimal lesions, particularly in the young, even when tubercle bacilli cannot be found in the sputum. It is a form of insurance which

well repays the cost in time and effort, and the slight risk involved. Today our tendency is to maintain compression by pneumothorax over longer periods, three years being about the minimum. In patients less than thirty years of age, I prefer to maintain compression until that age is reached in order to avoid reactivation of the lesion which might necessitate major surgery.

In the past few years closed intrapleural pneumonolysis has become a common procedure. Roughly, half of all pneumothorax cases have inadequate compression because of pleural adhesions. It is now routine practice in suitable cases to sever these adhesions by means of pneumonolysis, thus converting the inadequate pneumothorax into an adequate one.

Phrenic nerve interruption, either temporary or permament, is less popular at present than ten years ago. This is partly due to disappointing results from the procedure and partly to the institution of newer and more efficient means of compression. Nevertheless, I believe there is still a place for the phrenic operation in our armamentarium against tuberculosis.

Pneumoperitoneum, either alone or combined with phrenic paralysis, has a limited but definite usefulness in selected cases.

Extrapleural pneumothorax is one of the newer procedures which has already proved its value. When pleural adhesions prevent compression by intrapleural pneumothorax, and thoracoplasty is not available for one reason or another, extrapleural pneumothorax is often the treatment of choice. It can be used in combination with contralateral intrapleural pneumothorax, and in the occasional case extrapleural may even be done on both sides.

When, as frequently happens, the extrapleural space begins to diminish in size, the air in the space may be replaced by oil, thereby converting the pneumothorax to an oleothorax and preserving the compression, which otherwise would be lost. In rural localities, where patients must travel long distances for refills, oleothorax makes for easier handling of the extrapleural space, since the oil need be checked only every three to six months. Oleothorax may also replace occasionally intrapleural pneumothorax to prevent imminent obliteration of the space.

Plombage, the use of paraffin pack, has generally found little favor in this country, though some of our clinics report good results from its use in selected cases. I do not believe it has any advantage over extrapleural pneumothorax, and the high complication rate is definitely against the general use of this form of treatment.

Thoracoplasty has proved its value in thousands of cases. While superficially it would seem to be a radical procedure, the technique has now been perfected until it is considered the operation of choice in unilateral tuberculosis when artificial pneumothorax is not available. In such cases, thoracoplasty properly performed is superior to more conservative methods which may waste much valuable time.

Perhaps the newest of accepted surgical measures in tuberculosis is the transthoracic cavity drainage devised by Monaldi. This consists of inserting a trocar directly into a cavity under fluoroscopic control, thereafter replacing it with a rubber catheter connected with continuous light suction. This method is particularly applicable to blocked cavities which fail to close by the ordinary means of compression. In many cases tubercle bacilli disappear from the sputum in a very short time, and the cavity may close within a few weeks. Following cavity closure, thoracoplasty is usually done to maintain it, or the thoracoplasty may be done first, and followed by the Monaldi operation.

Chemotherapy in tuberculosis has thus far been disappointing. None of the sulfonamide drugs appears to have any appreciable effect on the tubercle bacillus or the individual's response to it. In the past year or so a group of the Mayo Clinic has conducted animal experiments with a synthetic drug known as promin with results which seem to indicate that it may have some value in tuberculosis. So far, however, no report of its clinical use has been published.

In closing I would like to quote the words of Dr. Wade H. Frost at Saranac Lake on the fiftieth anniversary of the first American sanatorium:

"The eradication of tuberculosis is now an expectation sufficiently well grounded to justify shaping our tuberculosis control program toward this definite end. We have reached the stage at which the biological balance is against the survival of the tubercle bacillus . . . and, as dem-

onstrated by the steadily falling morbidity and mortality rates, each existing case has for some time been giving rise to less than one new case of the disease. If this balance can be maintained and the sources of infection further reduced the control of tuberculosis is within our grasp."

REFERENCE

Frost, W. H.: Outlook for Eradication of Tuberculosis, Am. Rev. Tuberc. 32: 644-650, Dec. '35.

A PREVIOUSLY UNDESCRIBED ALLERGIC KERATITIS*

WITH REPORT OF CASES

By

N. E. MILES, M. D.

Birmingham, Ala.

During the past several years, diagnosis and treatment of the various corneal lesions have received much stimulation from the work of Johnson, Sydenstricker, Ascher and others. Their work, in the main, has concerned corneal lesions due to deficiency in the diet, mainly or wholly riboflavin. However, we still see many keratitides that closely resemble focal keratitis, or rosacea keratitis, show no foci and fail to respond to therapy. We know from these cases that much research is still to be done before corneal pathology can be understood, classified and treated.

It is my opinion that any cases that can further this understanding are of value, no matter how few cases or how poorly worked up. With this apologetic introduction, I am presenting two cases. To the best of my knowledge the only report of allergic keratitis in American literature was a paper by Dean and McCutcheon of Council Bluff, Iowa, in 1940. They could find no other report in the literature. They described six cases of interstitial-like keratitis due to sensitivity to various foods. The cases aged from 18 years to 83 years of age.

REPORT OF CASES

Case 1: I saw my first case, a six-year old boy, in consultation with Dr. Herman Frank, of Gadsden, 3/5/41. The onset was dated from March 1940 by photophobia, lacrimation, and pain in both eyes, accompanied by a low grade fever. A diagnosis of acute tonsillitis with keratitis was made. He improved intermittently with treatment but never got completely well. Five months later a tonsillectomy was performed. The eyes improved after operation, but the symptoms again recurred; a second tonsillectomy was performed in October 1940. The eyes again improved for a short period without getting completely well, and from November 1940 to March 1941 lacrimation, photophobia, and pain had been extreme, accompanied by some loss of vision. The second acute attack was associated with pain in the stomach and bowel upset. The child was admitted to the Children's Hospital, Birmingham, for study. Physical examination was negative except for a mild rhinopharyngitis and bilateral keratitis. Both eyes showed a moderate amount of conjunctival redness and a moderate amount of ciliary injection. There was circumlimbal pannus formation running toward the center of the cornea where several more or less deeply infiltrated areas were located. Some of these areas were so deeply infiltrated as to resemble ulcers.

Laboratory examination of the blood was as follows: Hemoglobin 75%; red count 4,100,000; color index 0.9; white count 12,700; polymorphonuclear leucocytes 74% and lymphocytes 23%. The urine was negative, as were smears and cultures from both eyes. The Kahn and Widal tests were negative, and there were no positive findings in the agglutination tests for typhus fever, undulant fever and tularemia. The Mantoux test was also negative.

Treatment: The child was put on routine ocular therapy—heat, atropin and zinc. He was also given five grains of sulfathiazole every four hours. Vitamins were given in quantity—50,000 units of vitamin A and 10 mg. of B_1 and riboflavin. He was also given a halodin capsule after each meal. He was put on a build-up diet containing no sweets or fruit juices. The diet began with broth, rice and baked Irish potato. As these did not exaggerate the eyes, proteinized milk and whole wheat bread were added. Later carrots, rice flakes or rice crispies were ordered, and, finally, green peas with either chicken or beef. During this time nose drops were prescribed for the rhinopharyngitis.

Progress: The child was admitted to the hospital 3/5/41. By 3/7/41 the pannus had just about disappeared; there was less infiltration and less photophobia. On 3/8/41

*Read before the Association in annual session, Montgomery, April 21, 1942.

the photophobia had diminished so that the eyes could be kept open easily. By 3/17/41 both eyes were white and quiet. A slight amount of inactive infiltration persisted. There were no vessels in the cornea. The child was discharged with instructions to gradually build up his diet. Things went smoothly until 3/26/41. On this date, he awoke with both eyes badly swollen. This swelling cleared speedily, and in five days the eyes were practically clear. This was the fastest his eyes had ever cleared following an acute attack. History revealed that on the day before the attack he had been given an egg for the first time since hospitalization. He was instructed not to eat any more eggs. Since then his eyes have remained quiescent. This was undoubtedly a case of atypical interstitial keratitis due to a sensitivity to ingested eggs.

Case 2: My second case was seen in consultation with Dr. A. M. Walker of Tuscaloosa. Unfortunately, I did not keep a record on him. His eyes, however, were similar to the eyes just described. His history, also, was long and drawn out, with all types of treatments by many physicians. The onset was prior to May 1941. He received treatment from both a general practitioner and an ophthalmologist without results. In May 1941 he switched to Dr. Walker who put him on routine therapy, again without results. In June Dr. Walker became ill and turned this patient over to a confrere who also failed to clear the eyes and sent the patient to New Orleans. The physician there had nothing to add to the treatment except to have the tonsils removed. This failed to help. The patient returned to Dr. Walker in September 1941. From September to the middle of November 1941 the eyes showed no improvement. I saw the case with Dr. Walker in November 1941, and prescribed the same diet as given in the first case. Since then the patient has improved, and when seen last month by Dr. Walker was almost completely well.

SUMMARY

Two cases are presented which resemble rosaceae keratitis, but which had failed to respond to specific therapy for this disease. They did, however, clear up when certain foods were withheld. It is admitted that much more work should be done on each of these cases, but it cannot be denied that both had had the usual therapy for months without results; that under my care, excepting the diet, nothing was added to the therapy that had not been given in the past; that both responded promptly on the dietary regimen. In my opinion, these cases undoubtedly fall into a previously undescribed category of corneal involvement—keratitis due to intestinal allergy.

Not by Guns Alone—Wars are won only by desperate people fighting for what they regard as their human rights and their very physical existence—by people who are willing to make the ultimate sacrifice. Wars are won by things of the spirit, not by material means.

Great leaders, many of whom were relentless destroyers, have conquered nations having vastly superior numbers, wealth, and munitions. Many of them have been fanatics convinced that their very existence depended upon destroying their enemies. Faced with disaster they prayed for *strength* and not for help.

The heroes of the Church, the Saints, the great religious and moral reformers, have had in common with outlaws and bandits the one thing that conquers, and that thing is the fighting spirit, the urge that makes men risk death itself rather than become slaves or skulking cowards in the presence of danger.

Father Damien's unconquerable spirit and sublime faith took him to the leper colony in Molakai and made of him one of the world's heroes. With courage and devotion to an ideal he blazed the way to the heights from which God's creatures are permitted to see something of the everlasting beauty of the universe.

Mohammed, with his desert outlaws, conquered all of his rich and powerful neighbors who despised him as just another bandit. The threat of Islam was at first only a tiny cloud, but behind that cloud was lightning as the world soon discovered. He overran most of the then known world, and his empire crashed only after his people had acquired ease and wealth from the fruits of victory. They then fell victims to the danger that ever lies in ease and comfort.

Alexander invaded the wealthy and powerful Persian Empire with a mere handful of fighting men inspired with the notion that their lives and liberty depended upon the outcome of the struggle. The Persian Empire, with its pomp and glory, its riches and its inexhaustible man power, defending a material world, was faced by the spirit that has won all of the wars recorded in history. . . .

Genghis Kahn, of the Gobi Desert, with a band of poverty stricken savages, like a cyclone destroyed the civilized world by the power of fighting alone. His people were willing to risk death. They had faith in themselves and in their Gods, and by their faith they conquered.

Napoleon inspired his followers to victory with "Over the Alps lies Italy," and all her wealth, ease and comfort.—*Russ, Texas State J. Med., Nov.* '42.

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MEN IN SERVICE

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Edgar C. Fonde' — Mobile
William G. Fonde' — Chickasaw
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Elias N. Kaiser — Montgomery
James E. Kendrick — Greenville
Frank F. Kennedy — Birmingham
James M. Kent — E. Tallassee
John Mason Kimmey — Anniston
Samuel M. Kirkpatrick — Selma
John H. Lary — Huntsville
Claud B. Lavender — Fairfield
Julius E. Linn — Birmingham
Joe H. Little — Mobile
Wilmot S. Littlejohn — Birmingham
Wm. W. Locke — Birmingham
Randolph N. Long — Selma
William H. Long — Birmingham
L. R. Lonnergan, Jr. — Gadsden
Robert L. Lucas — Birmingham
Edward R. MacLennan — Opp
Webster B. Majors — Tuscaloosa
Ernest O. Majure — Wetumpka
Hobson Manasco — Carbon Hill
Herbert R. Markheim — Cullman
Carl T. Martin — Headland
Farris J. Martin — Montgomery
Henry F. Martin — Birmingham
John A. Martin — Montgomery
Harry Martz — Birmingham
Dan W. McCarn — Warrior
Oscar C. McCarn, Jr. — Birmingham
William G. McCown — Huntsville
George C. McCullough — Birmingham
James F. McDowell — Birmingham
Edward A. McEver — Gadsden
Felix J. McGraw — Birmingham
James B. McLester — Birmingham
John T. McNabb — Alabama City
Henry H. Meadows, Jr. — Montgomery
William R. Meeker — Mobile
James H. Meigs — Anniston
Paul S. Mertins — Montgomery
Nathan E. Miles — Birmingham
Donald A. Miller — Birmingham
William H. Minor — Mobile
Dobbs Minot — Eutaw
David B. Monsky — Montgomery
Irving W. Moody — Mobile
John D. Moorman — Huntsville
Benjamin Morton — Birmingham
Jewett P. Motley — Ensley
Grover E. Murphy — Birmingham
Iva G. Murphy — Brewton
John Newdorp — Montgomery
Lucian Newman — Dadeville
William Noble — Attalla
Garrold H. Nungester — Decatur
John C. O'Gwynn, Jr. — Mobile
Lester C. O'Neal — Andalusia
Hubert R. Owen — Union Springs
Milton O. Park — Columbiana
Harry J. Parker — Madison
Robert Parker — Montgomery
Paul H. Parker — Margaret
William C. Parsons — Birmingham
Clarence V. Partridge — Mobile
Richard R. Patterson — Birmingham
A. I. Perley — Lafayette
Alton R. Perry — Mobile
Ezra B. Perry — Bessemer
Edwin H. Place — Birmingham
Louis C. Posey — Birmingham
Lance C. Price — Florence
Daniel R. Ramey, Jr. — Hartselle
James D. Rayfield — Jacksonville
Mack J. Roberts — Mobile
Edward B. Robinson, Jr. — Fairfield
Jose M. Rodriguez — Clayton
Herman L. Rosen — Montgomery
Robert E. Rothermel — Montgomery
Mason C. Rowe — Dothan
Socrates N. Rumpanos — Mobile
Mark M. Schapiro — Ensley
Edgar M. Scott, Jr. — Birmingham
William L. Sellers, Jr. — Mobile
J. Roscoe Shamblin — Tuscaloosa
Arthur M. Shelamer — Athens

Samuel W. Shelton	Montgomery
John T. Sheppard	Gadsden
Harold E. Simon	Birmingham
S. Paul Simpson	Alabama City
Wyatt C. Simpson	Gadsden
D. Driver Smith	Birmingham
Gordon R. Smith	Ozark
Merle E. Smith	Parrish
Virgil D. Smith	Leeds
David B. Snelling	Eutaw
James S. Snow	Birmingham
George K. Spearman	Anniston
Randolph H. Spitzberg	Mobile
William H. Spruell	Russellville
Aubrey A. Stabler	Greenville
Warren C. Stephens	Mobile
J. Leslie Taylor	Mobile
Eldred B. Teague	Talladega
Gerald H. Teasley	Athens
S. Ralph Terhune	Birmingham
Francis M. Thigpen	Montgomery
Benjamin F. Thomas	Auburn
Landon Timberlake	Birmingham
John M. Townsend	Birmingham
Alfred J. Treherne	Atmore
J. Frank Trucks	Birmingham
Thomas E. Van Sant	Piedmont
Samuel P. Wainwright	Birmingham
George W. Warrick	Birmingham
William D. Warrick	Birmingham
J. Harold Watkins	Montgomery
Clarence K. Weil	Montgomery
Harry Weiner	Birmingham
Oliver W. Welch	Fairfield
William E. White	Anniston
William W. White	Center
Arthur F. Wilkerson	Marion
Howard B. Williams	Birmingham
Joseph D. Wilson	Birmingham
William E. Wilson	Russellville
Samuel W. Windham	Geneva
Arthur A. Wood	Mobile
Paul S. Woodall	Birmingham
Lawrence S. Woodley	Andalusia
Gerald G. Woodruff	Anniston
Arthur W. Woods	Birmingham
Thomas B. Woods	Dothan
S. Buford Word	Birmingham
Duward O. Wright	Fort Payne
Allen C. Young	Bessemer
Alfonse H. Zieman	Mobile

DIED WHILE IN MILITARY SERVICE

Josiah Dozier Bancroft, Birmingham, September 1, 1942.

Frederick Page Boswell, Montgomery, March 10, 1942.

William Lee Tucker, Cullman, July 17, 1942.

DR. PELOUZE TO LECTURE IN ALABAMA

Dr. Percy S. Pelouze, eminent University of Pennsylvania urologist, will spend the month of January lecturing in Alabama. Reputed to be the outstanding specialist in gonorrhea in the United States, he will limit his lectures to his chosen field. He has been loaned by the University of Pennsylvania, where he is Associate Professor of Urology, to travel throughout the country lecturing to physicians and nurses, and Alabama is fortunate to have as its guest one who has done so much research work in this disease.



In order that every physician in Alabama may have an opportunity to hear him, twelve talks to joint medical societies have been arranged. It is to be hoped that every physician in Alabama will make an effort to attend one meeting.

The following is Dr. Pelouze's tentative itinerary, and physicians will be advised as to the time and place of the nearest meeting.

January 4th—Monday—Mobile: The county medical societies of the area.
5th—Tuesday } Mobile: Health of-
6th—Wednesday } ficers and nurses.
7th—Thursday—Brewton: Medical societies.
8th—Friday—Dothan: Medical societies.

January 11th—Monday } Montgomery: Health
12th—Tuesday } officers and nurses.
13th—Wednesday—Montgomery: Medical societies.
14th—Thursday—Opelika: Medical societies.
15th—Friday—Selma: Medical societies.

January 18th—Monday—Birmingham: Medical societies.
19th—Tuesday } Birmingham: Health
20th—Wednesday } officers and nurses.
21st—Thursday—Anniston: Medical societies.
22nd—Friday—Tuscaloosa: Medical societies.

January 25th—Monday—Gadsden: Medical societies.
26th—Tuesday—Decatur: Medical societies.
27th—Wednesday } Decatur: Health of-
28th—Thursday } ficers and nurses.
29th—Friday—Tuscumbia: Medical societies.

NERVOUS AND MENTAL EFFECTS OF THE SULFONAMIDES

"At one time or another, one of the sulfonamide derivatives has probably been exhibited in every illness known to man. Newer and more effective derivatives are constantly brought out, and disease after disease falls before the progress of the new chemotherapy. As with other dramatic new treatments, however, the toxic effects of these drugs are being neglected among a welter of favorable reports. The effects of this group of drugs on the nervous system has hardly been investigated, yet the nervous system is frequently injured.

"Earlier theories of the mode of action of sulfanilamide suggested that it stimulated the defense forces of the body, so that phagocytosis of pathogens was increased. This theory has been discarded, and it is now generally agreed that the drugs are primarily bacteriostatic. . . The discarded theory had to assume that the toxic effects of the drugs were side effects unrelated to the beneficial action, but it is not unlikely that many of the toxic effects are an integral part of the effect of the drugs on cells, whether bacterial or human. It is possible that the synthesis of new multipotent derivatives will be brought to a standstill by the disappointing discovery that the more toxic these drugs are to bacteria the more toxic they are to the human cell." Thus does Little[1] begin his excellent consideration of this subject. The author, who is connected with the Department of Neurology of the University of Michigan Medical School, goes on to tell us that "it is now fairly well established that the toxic symptoms of nausea, vomiting and diarrhea, which so often accompany the administration of sulfonamides, originate in the central nervous system. Headaches, tinnitus and dizziness occur frequently in persons receiving any one of the sulfonamides. It does not follow, however, that the magnitude of these reactions is an accurate indication of the seriousness of the toxic effects of the drugs on the nervous system. It will be seen that some of the least nauseating drugs produce the most damage to the nervous system."

Little then goes on to discuss separately the toxic effects of each of the sulfonamide drugs; which discussion we cannot go into here but must limit ourselves to his conclusions instead. He reminds us that a mild depression or euphoria occurs not infrequently during the administration of sulfanilamide. "When cortical depression progresses further, frank psychoses occur as a result of sulfanilamide therapy. A review of the literature reveals that 13 cases of psychoses following sulfanilamide therapy have been reported. It is probably true that many more abnormal mental reactions have occurred than have been reported, because frequently this reaction is taken as a matter of course. In these 13 cases the drug had been administered for periods varying from fifteen minutes to forty days. In 2 cases the reaction appeared on the first day. Most of

1. Little, Sam C.: Nervous and Mental Effects of the Sulfonamides, J. A. M. A. 119: 467 (June 6) 1942.

the psychoses appeared from three to ten days after drug therapy had been started, but in 2 cases the psychoses appeared after the drug had been discontinued. . . " And we read that "paranoid trends are not infrequent. As in other toxic psychoses, the particular manifestations probably depend somewhat on the prepsychotic personality of the patient. The psychosis usually clears up promptly following the discontinuance of the drug. Residual changes were not noted in most of the cases reported, but one patient died." And "peripheral neuritis is one of the more common complications of the nervous system after the use of members of the sulfonamide group of drugs. Sulfanilamide itself, however, produces neuritis less often than other derivatives." And in conclusion the Ann Arbor investigator tells us that "animal experiments seem to indicate that all members of the sulfonamide group have toxic effects on the nervous system, the parent substance, sulfanilamide, being the least toxic. The toxic effects are probably an integral part of the primary effect of the drugs on all cells, bacterial or human. It has been suggested that some of the deleterious nervous and mental effects may be dependent on cerebral anoxia resulting from hemoglobin attaching itself more readily to the sulfonamide group than to oxygen. Intermittent administration of a single sulfonamide or successive administration of different sulfonamides seems to predispose to the development of toxic nervous symptoms, possibly through a sensitization process. A review of the clinical reports, in general, confirms the results of the animal experiments. The drugs appear more neurotoxic in the presence of preexisting disease of the nervous system. The following abnormal conditions have been reported as due to the use of the sulfonamides: dysmorphopsia, aphasia, agraphia, stammering, toxic psychosis, peripheral neuritis, encephalomyelitis, myelitis, optic neuritis, transitory myopia, meningeal signs, blindness and convulsions."

While most of the complications due to the sulfonamide drugs have been reported many times, for some unknown reason the untoward effects of these new additions to our therapeutic armamentarium upon the nervous system have not received the attention they merited and Little has done well to throw light upon this neglected subject. And he does indeed give us reason to pause when he insists that "the toxic effects are probably an integral part of the primary effect of the drugs on all cells, bacterial and human." For who, at the present stage of our knowledge, can say that he is in error?

Committee Contributions

Maternal and Infant Welfare

PELVIMETRY

Measurements of the bony pelvis serve as one of the many guide-posts utilized by the physician in his choice of delivery care of the expectant mother. The internal pelvic measurements and the outlet measurements are of more value than the external ones though the latter often are an index of the size of the pelvis. Pelvic measurements should be made on every woman having her first baby, and every multipara who has either had difficult labors or premature babies. X-ray pelvimetry, in the hands of the trained technician, is very desirable in borderline cases.

Each patient should be examined abdominally during the last month of pregnancy for determination of presentation of the baby and engagement of the presenting part. It is important to know whether that particular head will go through that particular pelvis during labor.

Long hours of suffering and watching may be prevented when these guide-posts have been followed carefully along the journey of prenatal care.

EXPECTANT MOTHERS IN INDUSTRY

Care of the expectant mother is important in normal times but with the increasing number of women entering industry, the problem of their care becomes more important. Many of us think of industrial centers as exclusively urban. Alabama, with the exception of a few cities, has an essentially rural population. Therefore, the entrance of women in industry, at first thought, would not constitute a major war problem for us. This is, of course, erroneous as there are industries in some of our smaller towns, most of them employing varying numbers of women.

A concise summary of the policies and recommendations for the pregnant women

in industry is given elsewhere in this issue. (See under Bureau of Maternal and Child Health.)

Your committee would suggest that physicians practicing in communities with industries give these recommendations special consideration in order to see that the best protection and care possible are made available for these expectant mothers.

Prevention of Cancer

POSTPARTUM EXAMINATIONS

Recognition and treatment of early cancer is of primary importance if the high mortality is to be decreased. Prevention of cancer cannot be accomplished until a cause for it has been found. Irritants, chemical and mechanical, which have an influence on cancer cell growth, should be removed as soon as found. One of the underlying factors in cancer of the cervix is the irritation produced by low grade chronic infections. Endocervicitis following delivery can usually be cured with a few treatments in the office when started by the sixth to eighth week postpartum. This should be followed by yearly pelvic examinations in order that small recurrent lesions can be found and treated.

Many of the women who have babies each year in Alabama do not have postpartum examinations, as over a third of them are delivered by midwives. Many others do not return to their doctors for postpartum examination by the eighth week.

The importance of a complete postpartum examination with the treatment of any abnormal conditions cannot be overstressed. The education of its value lies in the hands of the medical profession. The individual doctor needs to bring to the attention of every woman to whom he gives maternity care the necessity of returning to his office for a pelvic examination before the baby is eight weeks old. She should be given to understand that such an examination includes an inspection of the cervix through a speculum as well as a bimanual examination to determine the position and involution of the uterus. Such inspection of the cervix often reveals cervical pathology not felt by the examining finger. Some of these erosions may be early cancer.

It is understandable that some busy doctors will not feel they can urge these women to come for an examination. Yet a postpartum examination with its subsequent treatment may be the means of preventing more serious trouble. Can we afford to pass by this opportunity to aid in the prevention of cancer, busy as we may be?

DIAGNOSIS OF CANCER OF THE UTERUS

Approximately 75,000 women die annually of cancer, and about 15,000 or about 20% of them die of cancer of the uterus. About one in thirty-seven women who reach the age of thirty may be expected to die of cancer of the uterus. This hazard increases until about fifty years of age when it begins to decline. Carcinoma of the cervix is more frequent during the years forty to fifty, while carcinoma of the body of the uterus is more frequent during the decade fifty to sixty, though any woman after the age of twenty-five is subject to the disease. Ten per cent of the cancers of the cervix occur in nulliparous women. This is not particularly disproportionate to the total number of women who have not been pregnant.

Diagnosis of cancer of the uterus is made on the history and physical examination. Abnormal genital bleeding is the most significant symptom to bring to the attention of the patient. Disturbances of menstruation or reoccurrence after cessation in the menopause are frequently ignored by patients who have assumed that such events are a part of the normal menopausal syndrome. This accounts for the fact that there was an average time waste from onset of symptoms to beginning of treatment of approximately eleven months in the report of 156 cases of cancer of the body of the uterus by Norman Miller (University of Michigan). It is quite necessary that women should be told to seek medical advice early whenever there is any abnormal vaginal bleeding.

Any case of postmenopausal bleeding should be carefully examined to exclude early cancer. A careful examination includes a bimanual and inspection of the cervix through a speculum. When there is a history of abnormal vaginal bleeding, an inspection of the cervix should be made even if it becomes necessary to rupture the hy-

men in virgins. Biopsies should, whenever possible, include some of the normal tissues near the suspicious area.

The general practitioner is often the first to be consulted. Diagnosis of early cancer is essential for cures, and every week lost in making the diagnosis and starting treatment reduces the life expectancy.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

SEPTEMBER 1942

Examinations for diphtheria bacilli and Vincent's	1,277
Agglutination tests (typhoid, Brill's, undulant fever)	825
Typhoid cultures (blood, feces and urine)	1,233
Examinations for malaria	1,919
Examinations for intestinal parasites	2,035
Serologic tests for syphilis (blood and spinal fluid)	56,257
Darkfield examinations	59
Examinations for gonococci	2,713
Examinations for tubercle bacilli	1,760
Examinations for Negri bodies (microscopic)	39
Water examinations (bacteriologic)	925
Milk examinations	2,027
Pneumococcus typing	7
Miscellaneous	413
Total	71,489

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

VIRUS PNEUMONIA

Reports as to the occurrence of cases of virus pneumonia in Alabama have been noticed in recent weeks. The disease entity is a rather new one insofar as clinical recognition is concerned, and its actual prevalence is difficult to determine.

The chief points in the diagnosis of this infection are:

1. A long period of incubation, usually two to three weeks.
2. Onset usually gradual, with weakness, malaise and generalized aching.
3. Fever is variable, ranging from 102°-105° F.
4. Cough is apt to be hacking and persistent.
5. Physical findings may be slight.
6. X-ray examination usually shows spotty shadows and the evidence of pathology is out of proportion to the physical findings.
7. Blood counts show a normal leucocyte picture except that late in the disease the count may be increased somewhat.
8. Sputum is usually scant but not rusty and pneumococci are not present in any large numbers.
9. Duration of the disease is from one to three weeks and complications are few. The prognosis is good.
10. The sulfonamide drugs are ineffective in treatment.
11. Multiple cases may occur in families.

The etiology of this disease is not clear-cut but it seems probable that a filterable virus is responsible.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

MATERNITY CARE AND EMPLOYMENT OF MOTHERS IN INDUSTRY

It is estimated that before the end of 1942 more than 4,500,000 women will be employed in industry and 6,000,000 during 1943. The majority of these women are in the child-bearing age and the problem of the protection of the pregnant woman and her child has become urgent. The labor situation in this country does not necessitate the recruitment and employment of pregnant women or women with infants but the need for women to take the places of men is acute. The problem is certain to occur.

The United States Children's Bureau and the Women's Bureau of the Department of Labor have jointly outlined policies and recommendations for the pregnant women engaged in industry. A woman expecting a child should give first consideration to her own health and to plans for safeguarding the health and care of the child. It should be the general policy of the employers to provide facilities for maternity care but without jeopardizing the woman's job or seniority privileges.

The pregnant woman should have the opportunity for prenatal care and the time to visit her doctor or attend the clinics. She

needs sufficient time off before delivery to be in a rested state at the time of delivery. She needs special consideration if employed in certain occupations that involve hazards or strain in the latter part of pregnancy.

Certain general recommendations are made for the woman and for her employers:

1. Facilities for adequate medical care should be available for all pregnant women. County health departments should make available to industrial plants the services of prenatal clinics for those unable to purchase such care. The plant personnel should make available information about the importance of such services and allow time off to visit the doctor or the clinic.

2. Pregnant women should not be employed on a work shift between the hours of midnight and 6:00 a. m. They should not be employed more than eight hours a day nor more than forty-eight hours a week.

3. Pregnant women should have at least two ten-minute rest periods during the work shift with facilities and opportunities for resting and obtaining nourishing food.

4. They should not be employed in certain types of work, such as occupations involving heavy lifting or other work that requires continuous standing or moving about. Other types are those that require a great sense of bodily balance, as on stepladders or where the accident risk is great as in power-driven machines.

Other occupations that should be avoided during any period of pregnancy are those that involve exposure to toxic substances. Some of these are aniline, benzol, carbon disulphide, chlorine compounds, lead compounds, mercury compounds, turpentine, radio-active substances and x-rays. These and other toxic substances exert an injurious effect in the blood forming organs, the liver and the kidneys. They may also have a harmful influence upon the course of pregnancy and may lead to premature termination or injury to the fetus.

5. All pregnant women should be granted a minimum of six weeks leave before delivery on presentation of a medical certificate and they should be given an extension of at least two months' leave of absence after delivery.

6. Should complications of delivery or of the postpartum period develop, a woman should be granted a reasonable amount of additional leave beyond the two months following delivery, on presentation of a certificate to this effect from the attending physician.

It is believed these recommendations are reasonable and should be followed if the woman is to fully recover from the pregnancy and be able to render satisfactory work in her employment.

It has been the experience of those interested in complete maternity care that every woman needs a minimum of twelve to eighteen months before starting her next pregnancy to maintain her maximum health. In order to provide this for her, child spacing services should be made available for every woman in industry.

In addition to the health hazard of too frequent pregnancies the continuous working months of women in industry are materially reduced, thus hampering the war effort.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

PRIORITIES AND CRITICAL MATERIALS AS THEY AFFECT PUBLIC WATER SUPPLIES

As national defense was intensified, the shortage of certain materials such as iron. steel, brass, and certain chemicals, as well as pumps, motors and tools used by utilities supplying water for general public use became apparent in 1941.

To limit or restrict the use of these materials, Donald M. Nelson, then Director of Priorities, issued on September 17, 1941, preference rating order P-46. This order set up a blanket preference A-10, under certain restrictions, for producers and suppliers of materials for organizations engaged in supplying public water, sanitary services, electric power, gas and steam for general use. This order was also issued for the purpose of facilitating the acquisition of material for maintenance and repair of the property and equipment for the operation of such industries. Before this rating became effective, it was necessary for the utility owners to make application for the authority to use and to execute an acceptance which certifies that he is entitled to apply and use the preference rating for operation, maintenance and repairs.

This order also placed restrictions on the quantity of material used by the producer during quarterly periods and the quantity of materials that may be kept in stock. The owners were also required to keep a continuous inventory of materials in storage and check the materials received and withdrawn from the stock.

Under this order, before amendments, the utilities could make all necessary repairs and replacements and make reasonable extensions and improvements that would be expected during normal growths. However, if large expansions or additions such as were needed to meet the increased demands caused by concentration of troops or industrial workers, it became necessary for the producer to file the proposed project with the War Production Board and secure its approval and release which carries a separate designated priority rating.

There has been no question of the public water supplies securing the needed materials to treat properly the domestic water and to disinfect adequately these supplies. The only restriction placed upon the owners has been the requirement that he keep only a thirty-day supply on hand and that he place his orders for these chemicals at a stipulated time. The question of securing the same quality of chemicals or in the same form which has been used in the past has been a concern of the filter plant operators.

Since war was declared, numerous changes or amendments to the original preference rating order P-46 have been made. Various orders and administrative letters from the War Production Board were issued further restricting the use of certain materials and restricting the length of extensions that may be made. The maximum length of extensions permitted was 250 feet unless such additions or extensions were specifically authorized by the Director General for Operations. Finally, orders were issued restricting all extensions except those to serve new buildings where the foundation under the main part of the structure was completed prior to July 1, 1942.

New and higher preference ratings were assigned from time to time in order that the utilities could secure the materials that were absolutely necessary for continuous and successful operations. The ratings assigned to public water supplies as of July 10, 1942 are AA-5 for deliveries for normal maintenance and repairs and for sabotage protection, and AA-2X for deliveries for emergency repair or breakdowns. Deliveries of materials now on order may be expedited by filing with the supplier on Form PD-4Y which will notify him that the delivery of such material has been rerated.

During all of these changes and reratings, further restrictions were placed upon water-works owners requiring them to reduce their inventories as well as their use of repair and maintenance material. These restrictions are based upon the 1940 recorded use of such materials in dollars, volume or cost. However, if the system has increased, the proportionate increases in purchase of maintenance material for production and pumping facilities are authorized. No increase is authorized for main extension or for maintenance of the distribution system.

The materials stored and used for maintenance of the distribution system must be cut 40% below the 1940 level. Also, only 60% of this amount can be bought from manufacturers. The rest must be obtained from surplus stocks of other water-works.

Shortage of metal has become so critical that it is now necessary for the War Production Board to impose the strictest kind of control on the consumption of metal items by all industries. It is also necessary that all water-works owners cooperate with the State Health Department and other owners and see to it that the mutual aid plan that was placed in operation by the Bureau of Sanitation is made to work. A list of surplus material has been received by this bureau from practically all of the public water supplies within the state. The owners, superintendent, and operators of these supplies have also indicated their willingness to cooperate and aid other water plants if called upon, and in several cases have done so.

It is believed that the public water supplies in Alabama can produce a safe and potable water under the present restrictions without endangering the public health in any of the towns and cities. There are possibly a few cities which have been overrun by such a large influx of war workers that they may experience a water shortage. The Bureau of Sanitation is also concerned over the conditions in these congested areas and has spent considerable time in thought and work on eliminating these insanitary conditions and in providing safe and adequate wa-

ter supplies at all times. There may be times when it will become necessary to ration water in these municipalities or sections of these cities. If such a condition occurs, all concerned will try to make the best of the situation.

The rapid expansion of war work or the concentration of troops has caused a number of congested areas within the state. Most of these areas have been provided with adequate water and sanitary facilities. There still remain a few cities and towns that have not been provided with these facilities and they find that they are now handicapped by the War Production Board restrictions. An example of this is where a town has an ample supply of water but the owners of the supply are not permitted to make new connections or main extensions, except after individual investigation. As has been stated, the producers are not permitted to make extensions or connections to any new house that did not have its foundation completed before July 1, 1942. There is also a restriction that prevents them from connecting to old buildings that did not have their plumbing fixtures in. Of course these restrictions were placed upon the public in order to conserve vital materials. However, these improvements may be made if they are proved to be of a military, public health or safety need. To establish this fact the producer must file a request for the authority to make the connections. It is felt that sanitary conditions at old buildings could be improved so that these houses would furnish more adequate quarters for war workers if a blanket priority rating were issued for certain stipulated municipalities.

Where complaints are received or where nuisances are created by this lack of water, it is apparent that the local health officer should advise the citizens of the municipalities under his jurisdiction that such an authorization is necessary and request that he apply to the owner of the water supply and give the information requested. Should the utility fail to make the necessary application to the War Production Board, the Bureau of Sanitation should be notified and asked to assist in making the request on the proper form and to the proper authority. The need for a blanket release for such connections in congested areas is indicated but until this can be accomplished the personnel of the Bureau of Sanitation will aid in every way possible in the prevention of insanitary conditions by frequent visits to these areas.

C. W. White

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	Sept.	Oct.	Estimated Expectancy Oct.
Typhoid	18	16	27
Typhus	59	46	44
Malaria	893	833	1036
Smallpox	0	0	0
Measles	34	11	16
Scarlet fever	128	185	117
Whooping cough	134	107	66
Diphtheria	83	153	183
Influenza	77	196	83
Mumps	34	25	27
Poliomyelitis	7	12	9
Encephalitis	1	1	1
Chickenpox	6	18	19
Tetanus	6	3	6
Tuberculosis	305	234	249
Pellagra	11	4	16
Meningitis	3	4	3
Pneumonia	105	238	95
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	12	12	5
Dengue	0	1	0
Amebic dysentery	4	1	0
Cancer	163	144	0
Rabies—Human cases	0	0	0
Positive animal heads	8	13	0

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Book Abstracts and Reviews

Treatment in General Practice. By Harry Beckman, M. D., Professor of Pharmacology, Marquette University School of Medicine, Milwaukee, Wisconsin. Fourth edition, thoroughly revised. Cloth. Price, $10.00. Pp. 1,015. Philadelphia: W. B. Saunders Company, 1942.

As always, Dr. Beckman's Treatment in General Practice is a welcome volume. The fourth edition is much larger than the third. It now contains 1015 pages, whereas the third edition contained only 787. There has been considerable improvement in the progressive issues of this volume during the past 12 years, but as always it is one of the most valuable volumes that can be present on the desk in the office of every general practitioner.

The author writes in the first person and consequently reserves the privilege of inserting his personal comments, usually in the form of witticisms which are most stimulating, sometimes complimentary and sometimes caustic, but always very pertinent. Many of his quotations are from folk lore, the Bible, the classics and literature, indicating that Dr. Beckman has an intimate knowledge of subjects other than medicine. His severest and most caustic remarks are aimed primarily at fakes and old customs of treatment, yet he gives due respect to many empirical formulas only because experience shows that they work. He gives due respect to all branches of the profession for many of their individual cus-

toms, some of which he himself feels are superfluous or useless, but because practice and usage demand their inclusion in his book he inserts them.

The Treatment in General Practice covers almost every known disease. There are many new subjects that are presented, some for the first time and some with acquired new titles. A few of these may be mentioned, such as alphatocopherol deficiency (vitamin E); Australian "X" disease; equine encephalomyelitis; fibrositis; Haverhill fever; histoplasmosis, and many others.

The bibliography attached is very extensive and covers 60 pages of very fine print. The index is very adequate and excellently arranged.

Throughout the discussion of each of the texts, the author inserts many criticisms toward our present-day method of teaching. He implies so often that great time is spent for the teaching of diagnosis but that the treatment is completely ignored or avoided.

The arrangement of each specific disease is of interest. It contains a brief outline of the manifestations, plus the most accepted etiology. Then it contains an elaborate discourse on the treatment always in the following order: first, general; then, local; then specific, and at the end it contains criticism of the treatment recommended, pointing out the possibility of failure or the probability of success. In many cases a complete prescription is added, leaving no doubt as to the method of treatment.

The author has by request included a chapter on geriatrics but this has been apparently against his desire because he pointedly indicates the inconsistency of such a division from general medicine.

The fourth edition contains a completely new chapter on sulfonamide treatment, including the indications, the results and the complications.

In all cases the text stays very closely to its title, namely, Treatment in General Practice. When the specialties become involved, the text quickly refers to books or other volumes concerning each specialty.

The publishers have completed an excellent task of arrangement and printing so that the reading is not too difficult to the eyes and the paragraph headings stand out distinctly. The less important pointers are put in finer print to conserve space and in many cases can be omitted unless the reader is specifically interested. There are very few errors noted in either the arrangement or presentation.

N. V. W.

Manual of Standard Practice of Plastic and Maxillofacial Surgery. Prepared and edited by Subcommittee on Plastic and Maxillofacial Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council, and Representatives of the Medical Department, U. S. Army. Cloth. Price, $5.00. Pp. 432. Philadelphia: W. B. Saunders Company, 1942.

This is an important and timely monograph on plastic and maxillofacial surgery. The authors show a clear insight of their subject and it represents the clinical experience of those who have devoted many years to their specialty. The authors' openmindedness, frankness and sound judgment are among the admirable features of this work.

There are four sections to this book which are as follows: Section 1, Reconstructive Surgery; Section 2, Maxillary Surgery; Section 3, Maxillofacial Prosthesis; and, Section 4, Anesthetic Techniques.

Section 1 begins with the simple essentials required at the battalion aid station or equivalent and follows through, step by step, ending with the discharge from the general hospital. The undesirable as well as the desirable procedures for large partial or total lip, nose, ear, scalp, hard palate and soft tissue reconstruction are carefully discussed so that the casualty from the field of battle might obtain the optimal end result.

Section 2 deals with gunshot wounds involving the jaws, fractures of the jaws, and the complications and methods of treatment, early and late, of such injuries. Fractures of the upper portion of the ascending ramus and of the neck of the condyloid process often present serious complications and result in ankylosis unless proper surgical care is given early in the treatment.

Several methods of fixation of fractured fragments are discussed and it is concluded that intermaxillary multiple loop wiring, using elastic bands for traction and fixation, is particularly useful in connection with definitive treatment to be applied in the general hospital. The authors state that the control of fixation for fractures of edentulous jaws may satisfactorily be accomplished by the Roger Anderson Method, which makes use of a simple extra-oral pin appliance. This appliance, when properly applied, is simple but permits function of the mandible, and assures repair of the bone with a minimum of discomfort to the patient. This appliance should not be used if patients have firm and healthy teeth in each fragment, for other methods mentioned in the text are then superior. The construction, uses, and advantages of the acrylic intra-oral splint are discussed in detail.

It is clearly brought out that the type and velocity of the missile have a distinct bearing on the character of the wound and the problems presented are definitely different from those met in civil life. The following are the points demanding special attention in the emergency care in combat zone: 1. arrest of hemorrhage, 2. provisions for adequate respiratory airway, 3. temporary approximate reduction and fixation of fragments of bone, and 4. provisions for safe unattended transportation from the combat zone to the hospital in the rear.

Section 3 deals entirely with maxillofacial prosthesis and divides the subject into several groups, namely, the intra-oral, the extra-oral, and combination prosthesis. It is definitely pointed out the prosthesis has its place in selected cases.

Section 4 is devoted entirely to anesthesia, local and general. The technique for regional, local anesthesia is clearly and completely demonstrated by an adequate number of illustrations. The majority of injuries of the face and jaws can be treated successfully under local anesthesia. However, the condition of the patient, the field

of operation, and the nature and severity of the injuries, also the complications encountered, will influence selection of the anesthetic agent.

The book is written in a brief, clear, concise manner and is highly recommended to aid the surgeon, whether civilian or military, in the discharge of his duty to the casualty.

The reviewer knows of no single volume that presents the subject in such a concise, efficient and thorough manner.

C. N. W.

Collected Papers of the Mayo Clinic and the Mayo Foundation. Edited by Richard M. Hewitt, B. A., M. A., M. D.; A. B. Nevling, M. D.; John R. Miner, B. A., Sc. D.; James R. Eckman, A. B.; and M. Katharine Smith, B. A. Vol. 33, 1941. Cloth. Price, $11.50. Pp. 1,099, with 160 illustrations. Philadelphia: W. B. Saunders Company, 1942.

The 33rd volume of Collected Papers of the Mayo Clinic and Foundation is larger than any of the previous issues. Within its 1099 pages are 659 articles, which in itself indicates the necessary brevity of most of the articles. The majority are but one-half to one and a-half pages in length. This conciseness is a distinct advantage to the busy practitioner who wishes to keep abreast of the newer procedures, findings and problems.

The section on Aviation Medicine is larger than before because of the growing interest in the subject during the present crisis. The technical details included are adequate for those interested in the field of aviation medicine; and the suggestions are of such a nature as to be of general interest to the average physician since they cover shock, color vision, hearing, etc. These items are also of interest to all of the aeronautical examiners.

The text is arranged by systems. Research articles are briefly supplied, whereas the clinical articles are reported in full. Experimental subjects present brief synopses and impressions and in some cases only titles with references. The references are supplied in every case in order that the complete article may be obtained if the reader desires them.

Since the articles originate from the Mayo Clinic and Foundation, the list of authors in the subtitles is impressive and authoritative. Throghout the entire book is a large amount of general information as can be gleaned from the following titles: The Liver and Medical Progress; Infection of the Urinary Tract; Congestive Heart Failure; Modern Treatment of Syphilis; Recent Studies of Arthritis and Rheumatism; Present Day Treatment of Pneumonia; and Whooping Cough and Measles.

Without question this book entitled Collected Papers of the Mayo Clinic and the Mayo Foundation is not a volume to sit down and read from cover to cover. It is a reference book for one to run through from time to time as a refresher to stimulate thought and to reconsider an old problem and to compare new ideas. It is an excellent volume to be actively used rather than to be placed as an adornment to a library. The volume is highly recommended to general practitioners, members of the Armed Forces, and to research investigators.

N. V. W.

Management of Sick Infant and Child. By Langley Porter, B. S., M. D., M. R. C. S. (Eng.), L. R. C. P. (Lond.), Dean Emeritus, University of California Medical School and Professor of Medicine; Formerly Professor of Clinical Pediatrics, Universtiy of California Medical School; Formerly Visiting Pediatrician, San Francisco Children's Hospital; and William E. Carter, M. D., Director of University of California Hospital, Outpatient Department; Formerly Chief of Children's Clinic, University of California Hospital. Sixth edition. Cloth. Price, $11.50. Pp. 977, with illustrations. St. Louis: The C. V. Mosby Company, 1942.

The sixth edition of this book brings up to date one of the popular one-volume pediatric texts. This book was written with the general practitioner's pediatric problems constantly in mind, as the foreword of the volume states. This text is a thoroughly practical treatise of childhood problems with just enough theory to flavor the discussions. A pleasant change of presentation of material is encountered in the manner and style in which the book is composed. The first eleven chapters of the book, which are the first of the three large divisions, are devoted to a practical discussion of some of the outstanding symptoms encountered in childhood disorders, such as vomiting, diarrhea, constipation, hemorrhage, pain, fever and convulsions. Each chapter is introduced by a concise discussion of the physiology, biochemistry and anatomy of the subject, thus affording a review of the basic sciences involved in the subject under discussion. Where there is a conflict of opinion the authors give both view points, stating frankly which one they have found in their experience to be the more valuable. The discussion on the diseases of infants is presented in the usual manner. Each system is discussed from a major heading, such as respiratory, digestive, genito-urinary and the other systems, but it is rather unique in that there is a general discussion of the whole system without subdivision headings.

The third part of the book is of inestimable value to the practitioner because here he will find discussions of how to go about applying the latest methods of treatment. It is of interest to note here and also throughout the book that the authors recommend the intraperitoneal administration of fluids. They stress that this procedure could and should be put to use more often. The closing chapters of the book contain much valuable information on formulas and other food preparations. One of the gems of this volume is the closing chapter on drugs used in pediatrics under individual headings for each disease.

This book will find much favor in a general practitioner's library for it is a book clearly written and well planned, with the only objection that because of its unique mode of presentation some individual problems may be hard to locate at first glance.

P. K. B.

Clinical Anesthesia. By John S. Lundy, B. A., M. D., Head of Section on Anesthesia, Mayo Clinic; Professor of Anesthesia, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; Di-

plomate and Member of the American Board of Anesthesiology, Inc.; Member of the Subcommittee on Anesthesia, National Research Council. Cloth. Price, $9.00. Pp. 771, with 266 illustrations. Philadelphia and London: W. B. Saunders Company, 1942.

There has long been felt the need for a book on anesthesia, and this work by one of the pioneers in anesthesiology fills the bill. It is complete and thorough on all phases of modern anesthesia, including all the anesthetic agents and methods in use at present.

The book treats anesthesia from the practical viewpoint from its opening chapter, and in this manner continues throughout. Most of it deals with Dr. Lundy's experience as head of the anesthesia section of the Mayo Clinic. This experience is widespread and is an excellent "well of learning" from which the surgeon, general practitioner, otolaryngologist, as well as the anesthetist, can imbibe.

The first chapter, partly in tabular form, outlines the author's personal choice of anesthetic agents and methods for the varied operations and procedures in all parts of the body. Many procedures naturally can be carried out under several methods. Indications and contraindications in the text explain the "yes" and "no" signs outlined in the tables. The operations also are separated for patients in "good" or "fair" condition and those who are debilitated. This should be of inestimable value to surgeons and anesthetists in deciding on a course to follow in emergencies.

The various methods of anesthesia, including all the anesthetics in use at present, are discussed from a practical standpoint with details of their administration given. The techniques of local and regional anesthetics used on the various parts of the body are described so that even the novice can locate the landmarks and carry out these procedures. There is a section also relating to the special methods of local anesthesia as related to dental surgery, bronchoscopy, and anesthesia of the bladder and urethra. Spinal anesthesia is discussed, both the single-dose method and the continuous method being described. A chapter is devoted to the technique used in spinal puncture.

Each of the agents in use for general anesthesia is discussed and the technique involved for each of these, whether volatile or gaseous substances. and whether administered by open drop or closed method, is described. Although only one gas anesthesia machine, the Lundy-Heidbrink, is described in the text, the principles involved with all other types of machines in use in this country are outlined in the table so that an anesthetist using one particular machine may familiarize himself with the mechanics of the others in case he has occasion to use them.

Intravenous anesthesia, especially with pentothal sodium, which Dr. Lundy was one of the first to use, and rectal anesthesia are thoroughly described. There is also a chapter on the use of anesthesia in non-surgical conditions, as for diagnostic block.

A chapter of real importance to hospitals, operating room nurses, and anesthetists deals with precautions to be taken with gas machines, their use, care, and cleaning and safety factors involved with the machines and anesthetics in use. This chapter also gives instructions to the operating room nurse for set-ups of trays for the various types of anesthesia. There are photographs of these trays to illustrate the text.

This book, in addition to being of use to the surgeon and anesthetist, dentist and operating room nurse, will be of special value to the general practitioner and interne who has to handle the postoperative care of his patients. Of even greater value will be its use in the teaching of anesthesia in medical schools and to internes. In addition to all practical problems involved, there is a chapter on the general use of analgesics and anesthetics, and another on the efficacy and toxicity of local anesthesia. There is likewise a summary of the analyses of the author's experience at Mayo Clinic from 1924 to 1940. This history of anesthesia and allied subjects is outlined in chronological event by Thomas E. Keyes in the last chapter in the book.

Dr. Lundy's work is truly a book that the profession will treasure as one of the first and outstanding books to cover the field of anesthesiology.

I. D. L.

Food Charts: Foods as Sources of the Dietary Essentials. Prepared by a joint Committee of the Council on Foods and Nutrition of the American Medical Association and of the Food and Nutrition Board of the National Research Council. Paper. Price 10 cents.* Pp. 20. American Medical Association, Chicago, 1942.

Current interest in nutrition is at a high level and the subject merits all the attention which it is receiving. Information about the composition of foods now is on a quantitative basis. A forceful presentation of some facts about foods as sources of the dietary essentials is provided by the present illustrated essay, which has been prepared by a joint committee of the Council on Foods and Nutrition of the American Medical Association and of the Food and Nutrition Board of the National Research Council. There are eight charts showing the contribution that individual foods may make with respect to the needs for protein, calcium, iron, vitamin A, thiamine, riboflavin, nicotinic acid and ascorbic acid. A feature of these graphic presentations is that the values are presented in terms of the proportion of the daily requirements which are supplied by typical servings of each food. The requirements selected are the Recommended Daily Allowances of the Food and Nutrition Board of the National Research Council. The charts show, for example, that a serving of about 3½ ounces of cooked greens (beet, kale, chard, mustard, spinach, turnip) will supply more than 10,000 International units of provitamin A, the daily allowance of which is 5000 international units. An orange of average size, or half a grapefruit, or a serving of fresh strawberries will supply the 75 milligrams of ascorbic acid which is considered to be a desirable intake of vitamin C. It is interesting to note the unique value of milk as a source of calcium, protein and riboflavin. There is a descriptive paragraph or two about each of the

*Quantity prices on request.

charts. In addition the booklet reproduces the table of Recommended Dietary Allowances and also provides the values of Minimum Dietary Requirements developed by the Food and Drug Administration for purposes of labeling special dietary foods. This little essay thus provides considerable factual information about foods as sources of the dietary essentials.

Night of Flame. By Dyson Carter. Cloth. Price, $2.50. Pp. 337. New York: Reynal & Hitchcock, 1942.

Mr. Carter has an interesting story to tell, and he tells it well. It is a story of life and—in the latter chapters especially—death in and around a great hospital. It is of course fiction but, like all good stories of imaginary acts and brain-bred men and women, it is a true story in that it pictures loves, dislikes, jealousies and other human emotions as they are found at every facet of human activity. And there is much of that conflict, between humans and other humans and between warring impulses within the same persons, which is the *sine qua non* of good reading.

Night of Flame has little plot, but that does not matter. It consists for the most part of relatively minor incidents and conversations between nurses, doctors and others making up the staff of the great hospital where they carry on their never-ending struggle to cheat disease and postpone death. There is a distinct atmosphere of ether and white uniforms about the whole story. The reader has much the same feeling that he would have if he were sitting somewhere before an array of switches, which he flicks to connect his loudspeaker with the nurses' home, the operating room, the supervisors' office, the labyrinthean corridors, and all the other parts of the huge, rambling building where people work and talk.

The chief character is Dr. Gerard Stevens, a brilliant but rather erratic young surgeon, who appears to have let his medical training interfere with his sense of moral values. Satellite characters, who revolve around him much as the earth and other planets revolve around the sun and, like him, receive light and heat from being so close, include his fiancee, Joyce Rathwell, who has a family connection with the hospital, is extremely wealthy, uses profanity like a longshoreman, and discusses delicate sex relationships freely with strangers; Aileen Huntley, a nurse, pretty and full of moral scruples until she meets and falls desperately in love with the irresistible Dr. Stevens; Sonnie Draper, another nurse and Aileen's roommate, who takes to sexual promiscuity when Dr. Stevens jilts her, developes syphilis, and plans to save herself from disgrace by suicide but is talked out of it; Larry Canfield, a patient, who seems to exert almost as much power over women as the brilliant young surgeon, and who in the end marries the beautiful Aileen: and Eve Rolland, another student nurse and Aileen's and Sonnie's roommate. There are also many others—doctors, nurses, firemen, etc.

Mr. Carter's best chapter is that describing the great fire which destroys a considerable part of the hospital and brings death to many patients and staff members. You have a feeling all the way through that it is coming, as there are suggestions here and there that a spark in the right place could, and eventually will, bring an inferno. When it comes, you have a sense of being right there. It is all exceedingly well done.

J. M. G.

A. M. A. News

USE ALBUMIN FROM BLOOD PLASMA AS SUBSTITUTE IN TRANSFUSIONS

A. M. A. JOURNAL SAYS IT PROVIDES NEW METHOD FOR EFFECTIVELY COMBATING SHOCK RESULTING FROM INJURIES, HEMORRHAGE AND BURNS

The discovery that the albumin contained in human plasma can be injected or transfused in a more highly concentrated form than the whole plasma is said by The Journal of the American Medical Association in its November 28 issue to provide a new method of great effectiveness for combating shock from injuries, hemorrhage and burns.

The new method is particularly important because it greatly facilitates transfusions to the wounded on the field of battle, thus helping to reduce the mortality rate from shock. According to a recent statement of the surgeon general of the Navy, this was demonstrated a short time ago in battles in the South Pacific. One fifth as much human serum albumin is required for a transfusion as is needed when the entire plasma is used, 100 cc. of albumin in solution being equivalent to approximately 500 cc. of plasma. This not only facilitates shipping and storage but also administration.

The new method resulted from research projects sponsored by the Bureau of Medicine and Surgery of the Navy Department. Three reports on the investigations are contained in the October issue of the U. S. Naval Medical Bulletin.

Commenting on these three reports The Journal explains that "albumin makes up about 62 per cent of the total protein of human plasma and is chemically the most soluble and most stable of the plasma proteins."

The Journal says that one of the reports presents evidence that human albumin is safe and effective under clinical conditions, based on the effects noted in 200 instances in which it was given.

The types of cases treated were classified as shock due to trauma or injury, hemor-

rhage, operation and infection, early and late burns and other conditions.

"The administration of human serum albumin," The Journal says, "may be considered an established procedure on the basis of this work and the work which has preceded it."

One of the other reports, The Journal explains, "describes the standard Army-Navy package of human serum albumin (concentrated). For this purpose a 'unit' of human serum albumin is defined as 25 Gm. This is . . . equivalent to approximately 500 cc. of citrated plasma. In the standard package the 25 Gm. is dissolved in 100 cc. of a specially prepared solution in which concentration it is stable for temperatures up to 50 C. The solution is contained in a double ended glass ampule, rubber stoppered at each end. Each ampule together with the apparatus for its administration is enclosed in a metal can. Three of these cans, containing the . . . equivalent of 1,500 cc. of citrated plasma, are packaged in a fiber board box."

The Journal says that because of this and previous work a new method of great effectiveness has been made available for combating shock on the field of battle and that "furthermore, this series of investigations may be recognized as a demonstration of cooperative research at its best."

PREMEDICAL EDUCATION AND LOWERING OF DRAFT AGE TO EIGHTEEN YEARS

A suggestion which may be part of the answer to the maintenance of an adequate number of properly qualified young men in the field of premedical and medical education during the present emergency, particularly in view of the problem created by the lowering of the draft age to 18 years, is presented in The Journal of the American Medical Association for November 28. The Journal says:

"In an address before the Congress on Medical Education and Licensure in 1939 President J. B. Conant of Harvard University called attention to the fact that the total professional training of medical men depended to some extent on their plans for the future. Those contemplating research as a career would require much more of the fundamental sciences than would those who are looking forward to general practice. The exigencies of war have already demonstrated the possibility of serious modifications of technics and practices which in times of peace seem unalterable. The acceleration of medical education and the proposed changes in licensure are examples. In 1939 President Conant made the following suggestions:

"Encourage college freshmen who are looking forward to a medical career to apply for admission to a medical school three years in advance. Let the admission committee base its rejection or conditional acceptance of such applications on the school record, on the first year college record and on performance in such tests as the scholastic aptitude test. After the undergraduate in question has been tentatively enrolled as a future medical school student, let there be cooperation between the medical school and the college in working out through a joint committee an intelligent college program for the remaining three years.

"This proposal by President Conant, it has been suggested, may be part of the answer to the maintenance of an adequate number of properly qualified young men in the field of premedical and medical education during the present emergency. The average age of young men at graduation from high school is 17.2 years. If they are enrolled in college before they are 18 years of age they might be deferred by selective service boards until they have completed the session in which they are enrolled. Under the plan proposed by President Conant of Harvard they could be matriculated in the medical school after the completion of the first year of premedical education and would thus be made immediately available for the reserve of the Army or Navy medical departments. Obviously young men who could not pass the physical examination for such reserves might have to be considered in some different manner. The proposal by President Conant is supplemented by his suggestion that the old concept of four years of scientific and liberal education, followed by four years of professional training, be replaced by a system in which the whole eight years is regarded as a unit to provide a balanced intellectual diet suited to each student's talents and interests."

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Miscellany

AVERAGE INCUBATION PERIOD OF POLIOMYELITIS IS 12 DAYS

IT WAS FOUND TO VARY FROM 5 TO 35 DAYS IN AN EXTENSIVE OUTBREAK IN ALABAMA, BIRMINGHAM PHYSICIAN REPORTS

The incubation period, calculated from exposure to the onset of symptoms, in 37 instances of epidemic human poliomyelitis (infantile paralysis) varied from five to thirty-five days and averaged about twelve days, Albert E. Casey, M. D., Birmingham, Ala., reports in the November 14 issue of The Journal of the American Medical Association.

Knowledge of the incubation period of a disease is helpful in determining early treatment and is valuable from a public health point of view. It aids in diagnosis and makes possible the institution of early treatment. The early symptoms of infantile paralysis often are similar to those of other diseases. Information on the incubation period also aids in defining what should be done about quarantine and makes it possible for a person exposed to a disease to know when there is no longer any danger of contracting it.

"Recent reviews of work on poliomyelitis," Dr. Casey explains, "contain no data pertinent to the incubation period of this disease in man. . . Since the method of transmission of the disease has not been proved for man, the only feasible method of estimating the incubation period directly is to collect a series of instances in which the initial victim in a neighborhood either visited or was visited by a patient with acute poliomyelitis from some other neighborhood.

"In an extensive outbreak in Walker County, Ala., in the summer and fall of 1941, there were 37 instances in which the initial victim in a neighborhood followed a single short visit (less than forty-eight hours) to or from a prior victim of acute poliomyelitis. . . Careful histories were taken at the home of the victim and of the contacted child and at the homes of neighbors, friends, relatives and contacts. . .

"The incubation period when plotted from the day of exposure to the onset of the prodromal period varied from five to thirty-five days and averaged 12.8 ± 1.2 days for the 29 paralytic cases and varied from five to fifteen days and averaged 9.5 days for the 8 abortive cases. . ."

Dr. Casey says that this is compatible with the incubation period in 11 cases taken from the literature and with the incubation period in the rhesus monkey or chimpanzee inoculated with freshly isolated human strains of the virus of the disease.

FIND NEW TREATMENT FOR BURNS SAVED 30 OUT OF 32 PATIENTS

THREE NEW YORK PHYSICIANS REPORT ON USE OF A SPRAY MADE UP OF A SOLUTION OF SULFADIAZINE AND TRIETHANOLAMINE

Treatment employing 2.5 per cent sulfadiazine, a member of the sulfanilamide family of drugs, in 8 per cent triethanolamine, an emulsifying agent and solvent useful for applying certain medicaments to the skin, was found to be valuable in 30 of 32 patients with second and third degree burns, Milton Rothman, M. D.; Joseph Tamerin, M. D., and Jesse G. M. Bullowa, M. D., New York, report in The Journal of the American Medical Association for November 14. The area burned varied from 12 to 45 per cent of the body surface. This recovery rate is very high in view of the severity and extensiveness of the burns.



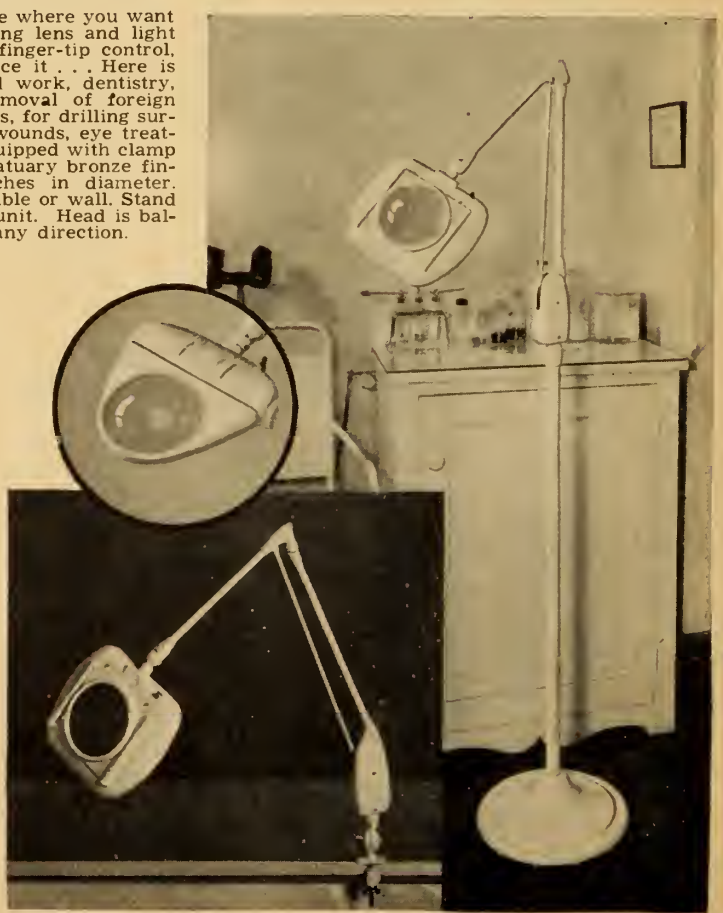




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LOW SPINAL ANESTHESIA*

By
JAMES E. CAMERON, M. D.
Alexander City, Alabama

As it will be discussed here, low spinal anesthesia may be defined as abolition of sensations of pain below the level of the navel produced by the subarachnoid injection of procaine hydrochloride in the lumbar area.

More than fifty years ago the first recorded spinal anesthetic was given by Tuffier. The method has been used with varying technique since. There have been waves of enthusiasm followed by waves of condemnation. At the present time it is used in all parts of the world. The present wave of enthusiasm dates from about 1928. The introduction of ephedrine by Chen, and the technical innovations of Pitkin, Babcock and others, did much to bring about its present widespread use.

The parts of the body into which the injection is made and the parts affected by the drug are deserving of special mention. The bony landmarks of importance are the iliac crests and the spinous processes of the lumbar vertebrae. A line drawn across the back at the level of the crests of the ilia is a little below the interspace between the fourth and fifth lumbar vertebrae; the spines of the vertebrae point the true line of the column whether it be straight or curved. Acute flexion of the spine widens the spaces between the spines and thereby makes the path to the elected spot wider. It is also comforting to remember that the cord, as such, ends at the level of the second lumbar body or higher. The contents of the canal below this level are the cauda equina, the meninges and the spinal fluid. It is also to be remembered that the cord fills only one-half the spinal canal, the other half being filled with fluid and the finer layers of the meninges. The dentate ligament and the fine trabeculae from the arachnoid to the pia mater also serve as baffles to the flow of any fluid, whether normal or containing a drug. There is some movement of fluid within the canal corresponding to the respiration, and a lesser movement that corresponds to the action of the heart. For practical purposes these movements may be disregarded.

The direct effect of bringing a solution of procaine hydrochloride into contact with the nerves in the subarachnoid space is exactly the same as elsewhere in the body. So long as the drug is not in too strong a solution, is sterile and free of foreign matter little fear need be felt for the safety of the tissues touched by the solution. The remote effect of the drug in causing a fall in blood pressure is brought about by a blocking of the white rami in the anterior nerve roots. This in turn allows a lessening of the tone of the blood vessels in the area affected. The higher the level of anesthesia induced the more marked will be this effect. The general circulation is affected too. The heart rate is slowed, sweating is absent, and the respiration becomes diaphragmatic and costal even when the level of the anesthesia does not extend to the ribs. The intestines contract and lie quiet in the belly while the anesthetic lasts. The muscles of the area of anesthesia are completely relaxed and only the sensations of pressure remain. Respiratory embarrassment is a sign of a high level of anesthesia.

The fall in blood pressure can be combated by a preliminary injection of ephedrine, or by having the patient breathe deeply at the first sign of nausea. The nausea precedes

*Read before the Clay County Medical Society, Ashland, August 19, 1942, and the Northeastern Division of the Association, Albertville, October 15, 1942.

the fall in blood pressure, and deep breathing will tend to abolish it and prevent the fall in blood pressure.

Of all the many drugs that have been and are used in the production of spinal anesthesia, one seems safest—procaine hydrochloride (introduced as novocain). It has a very low index of toxicity, is readily available, is completely stable, and thoroughly tried. It has the one disadvantage of being short in action. Even this may be turned into an advantage by the adoption of the method of serial injections as proposed by Lemmon.

For low spinal anesthesia the dose of procaine need not exceed 200 mgm.; rarely 150 mgm. This minute dose of drug gives complete anesthesia lasting from twenty to ninety minutes (usually about one hour) when used according to the method being described. If the operation is not finished in that time, the anesthesia can be supplemented in any of three ways: by infiltration with ½ to 1% procaine if the operation is nearly done; by inducing gas or ether anesthesia, or by another injection into the subarachnoid space.

Intimately connected with the use of procaine for spinal anesthesia are two other drugs, ephedrine and the barbiturates. The barbiturates serve to allay nervousness before and during the operation and have the effect of rendering procaine less toxic. Ephedrine, given before the injection, tends to sustain the blood pressure.

The indication for spinal anesthesia may be condensed to this: the need of an anesthetic in a patient when this seems the safest means of obtaining it. The conditions that must obtain are several: (1) the anesthetist must be thoroughly conversant with the drug and the method of administration and the measures to be used in combating ill effects should they arise; (2) the patient must not be in shock; (3) the contemplated procedure must not be too time consuming; and (4) the instruments (few though they are) must be at hand.

The contraindications are shock (a patient in shock must not be given a spinal anesthetic), diseases of the spinal cord or brain, such as syphilis of the central nervous system; advanced circulatory failure and bilateral kidney disease that is severe. One relative contraindication is the state of hypochondria. The use of spinal anesthesia in children under fifteen is also to be done with misgiving. Procedures that can be done as well and as safely under local or topical anesthesia do not warrant spinal. The optimal field for spinal seems to lie somewhere between the ideal patient and the debilitated one. General anesthesia can be given to the robust with comparative impunity; and local, or morphine and a little gas, had best be given to the extremely debilitated patient. Beware of giving spinal anesthesia to a nervous woman with a long list of symptoms. She is likely to have some backache after her operation and forever blame it on "that spinal shot."

Writers in the special fields of urology, gynecology and proctology all find space to devote praise to spinal anesthesia. It is often offered as a good substitute for the technically more difficult sacral block. The procedures that are done well under spinal anesthesia are many but the majority of spinal anesthetics are given for the performance of appendectomies, hemorrhoidectomies, hernioplasties, curettements, the reduction of fractures below the pelvis, and operations on the prostate gland.

The technique used by the writer is that described by Spelman in Hertzler's Local Anesthesia. It is very closely akin to the technique advocated by Babcock, Buie, Christopher and others. Its advantages are apparent. No mistake in the dose of the drug is likely for only one size ampoule of procaine crystals is used (150 mgm.). The amount of spinal fluid used to dissolve the crystals is always the same (1½ cc.). The rate of injection is constant, one cc. every five seconds. The table is left level. No barbotage is used. The only factors that have to be varied are the total dose of the drug to be injected and the level at which the injection is to be made. The size of the dose is governed by the size and general habitus of the patient, together with the desired level of anesthesia. The level of the puncture depends entirely on the level of anesthesia desired. For a medium sized and bodied man in whom one desires anesthesia up to the umbilicus or a little above, the puncture is made between the third and fourth lumbar vertebrae, one and one-half cc. of fluid is used to dissolve 150 mgm. of procaine, and this is injected at the rate of one cc. every five seconds (seven and one-half seconds).

Had anesthesia of the legs and perineum only been desired, the dose would have been 100 mgm. (1 cc. of the solution); and had anesthesia of the perineum alone been desired, the dose would have been reduced to 80 mgm. and given in the next lower interspace. For smaller men, women, and short thick-necked individuals, the dose would be reduced. The respective doses would be 130 mgm. in 1.3 cc.; 90 mgm. in 0.9 cc., and 75 mgm. in 0.75 cc.

The preoperative medication can be generalized to some extent: one and one-half grains of one of the quick-acting barbiturates, such as seconal or nembutal, is given thirty minutes before the procedure is to begin. This is accompanied by one-sixth grain of morphine. Five minutes before the injection of procaine is to be made the site of the lumbar puncture is infiltrated with a solution of 2% procaine and 5% ephedrine, the amount used depending on the blood pressure reading before the patient left his room. If the pressure was less than 130 mm. of mercury in systole, two cc. of this solution is injected (giving a dose of 100 mgm. of ephedrine); if the pressure was between 150 and 175, only one cc. is used, and the dose of ephedrine then is 50 mgm.; if the pressure was more than 175 mm., no ephedrine is added to a plain two per cent solution of procaine used to anesthetize the site of injection. All injections are done with the patient lying on his left side and the table level. The spinal puncture needle used is 22 gauge, short bevel, semiflexible, and of stainless steel variety. The needle used for the preliminary injection is as small as possible—25 or 27 gauge and one inch long.

The usual sequence of events following the injection of the solution into the subarachnoid space is as follows: the patient is turned on his back, the field prepared, draped, and tested for anesthesia. The blood pressure is checked frequently. After five minutes the level of anesthesia is usually stable but it is ten minutes occasionally before satisfactory anesthesia is established. As soon as the level of anesthesia is satisfactory the operation may be begun. The very important person at the head of the table keeps close watch on the blood pressure, talks with the patient and, if necessary, gives stimulants or encourages deep breathing if nausea begins. Twenty minutes after the injection the head of the table may be raised or lowered with comparative safety for the level of anesthesia will no longer shift, the procaine having become fixed in the tissues.

Following the operation the patient is carried to his room in a supine position and the head kept at bed level for twenty-four hours. If the operation has been a very short one the operator should check to see that the patient is not moved until the twenty minute period has elapsed.

The difficulties encountered in obtaining a satisfactory level of anesthesia are all technical ones and become fewer and fewer with practice. The difficulties met most frequently are (1) dry puncture, (2) bloody fluid, (3) lancinating pain down one leg of the patient, and (4) successful puncture and injection but no anesthesia at the desired level. The dry puncture is simply the result of not entering the subdural space. The bloody puncture results from a small vessel being punctured and unless the fluid quickly clears a new site should be elected. The pain down the leg of the patient means that the needle has deviated from the mid-line. The satisfactory puncture and injection that leads to no anesthesia is harder to explain but probably comes from the dura and arachnoid being pushed forward by the stream of injected fluid causing the deposition of the fluid posterior to the sac. Leakage from the puncture site is another possibility.

The complications and sequelae of spinal anesthesia have been and are favorite topics for medical writers and gossips alike. It is undoubtedly true that serious complications and sequelae can arise during or following spinal anesthesia. The rate of incidence of such complications is lower than one would first think from the frequency of their mention in the literature. Some idea of the extent to which the search for data on this subject has been made can be obtained from the figures of Tendler who reviewed 326,000 cases of spinal anesthesia. His most conclusive deduction was that "the success or safety of spinal as with other anesthetics is in the user rather than the drug employed." Surely it is a comparatively safe agent when it has endured competition for fifty and more years. Some surgeons are now using spinal anesthesia who condemned it only a few years ago. Others are contin-

uing in its use after more than thirty years' experience with it. The competition among anesthetic agents is stronger than ever before. Spinal anesthesia is certainly holding its place. The complications that are of most frequent occurrence are nausea, vomiting, headache, and the before-mentioned fall in blood pressure. The nausea may be due in part to the morphine that is usually given. The incidence of vomiting is definitely lower than with ether. The spinal type headache is less and less frequently encountered, and when it is found is usually the result of drawing off too much fluid or using too large a needle.

The sequelae of nerve paralysis, loss of ability to void and paresthesias are rare indeed. When they occur after the subarachnoid injection of procaine it is most likely that contamination of the drug was to blame. A faulty puncture would lead to immediate trouble. It is axiomatic that one must move the patient about in bed after any anesthetic to avoid certain lung complications. In the face of upper respiratory complications one should encourage the patient to cough after he has had a spinal anesthetic or atelectasis will be a common occurrence. When atelectasis is present the simple expedient of a vigorous cough will usually bring up the plugging mucus.

The advantages of spinal anesthesia are rapid, quiet induction; freedom from irritation of the respiratory tract, complete relaxation, maintenance of consciousness, and the small amount of drug used to induce anesthesia. A further advantage in war time is the small amount of space required for storage of the necessary equipment and drugs for many anesthetics. These advantages often outweigh the before-mentioned disadvantages.

The personal experience of the author with procaine-induced spinal anesthesia has been small but very satisfactory. From July 1, 1939 to July 1, 1942 it was selected as the anesthetic of choice in 94 cases and 95 operations (one patient having received this type of anesthetic twice). In this series there was a failure to obtain fluid once; however, this patient was given a successful block two years later. There were two instances in which the level of anesthesia was not high enough and the patients were etherized. In three cases the anesthetic did not last long enough to finish the procedure started and ½% procaine was injected into the abdominal wall for closure. No other complications were encountered. Of these 94 patients, four died: one, a sufferer from a ruptured appendix, also had a very marked diabetes, one was a moribund young woman with advanced toxemia of pregnancy, and the other two had ruptured appendices. One of these died of infection on the eighth postoperative day of generalized peritonitis, and the other on the tenth postoperative day from cardiac failure. None of these deaths, I feel, was due even remotely to the anesthetic used nor do I feel that another type of anesthetic would have altered the outcome.

From experience gained with former cases it is thought that this method of anesthesia has a definite place in surgery below the umbilicus.

DISCUSSION

Dr. H. L. Rogers (Albertville): I personally believe that spinal anesthesia holds a very definite place among other types of anesthetic agents. Marked extremes of view exist as to the use of spinal analgesia, ranging from those who hold that there is no warranty at all for its employment to those who hold that there are no contraindications against its use whatsoever. I think that its use should be limited to operations below the level of the diaphragm whereas there are men who have used it for craniotomy, excision of the larynx and tongue, and the like.

The method is distinctly unsafe for operations above the level of the nipple. It is especially good in operations below the level of the umbilicus under circumstances where inhalation anesthesia is contraindicated. Whereas it is especially good in these types of cases, I believe it may safely be used in any healthy person between the ages of 16 and 55 who is emotionally steady and not in shock.

Special advantages for the use of spinal anesthesia are the presence of abdominal stillness, non-involvement of the heart, respiration and kidneys, and the presence of the patient's aid when required, blocking of the reflexes which lead to shock, and lessening of postoperative vomiting (especially valuable in abdominal work).

The special disadvantages of its use are the following: physical impression of consciousness, unpleasantness intercurrent and postoperative occurrences, danger of the analgesic agent injected, liability to lessen the dosage after one injection, indeterminate length of analgesia which may cease before the operation is finished, and possibility of irritating or injuring the cord and nerve roots.

Spinal anesthesia should never be used where the patient cannot remain in bed for at least 48 hours.

The most common complication resulting from the use of spinal anesthesia and which must be

considered as occurring in any case are headache, nausea, vertigo and backache. Best results in treating these symptoms may be obtained by elevating the foot of the bed, administering glucose, and using mild catharsis.

In discussing low spinal anesthesia I think that passing notice should be given to the use of alcohol injections into the spinal canal with the patient in such a position as to allow the alcohol to block the sensory tracts of the cord and thereby render the patient insensitive to pain from incurable lesions below the level of the umbilicus. This is a very simple procedure and most always successful in relieving these patients of pain over a long period of time.

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Acne Vulgaris—Acne vulgaris is a disease of complex etiology, beginning with the increased endocrine and cutaneous glandular activity of puberty and adolescence, developing further as a result of secondary pyogenic infection, and influenced unfavorably by anemia, overindulgence in carbohydrates and fats, constipation and intestinal auto-intoxication, ingestion of iodides and bromides, and in girls by ovarian dysfunction. Although the correction of any of these factors which may be operative is important to successful treatment, none of them is the sole cause of the disease, and none offers a successful specific approach to treatment. While not all cases are suitable for x-ray therapy, still this modality offers the most hope of permanent cure in the majority of well developed cases of the disease, particularly in the older age groups.—*Smith, Texas State J. Med., Dec. '42.*

DILANTIN SODIUM THERAPY IN DETERIORATED EPILEPTICS REFRACTORY TO OTHER TREATMENT*

By
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The majority of cases of epilepsy can be controlled or improved by a proper dietary regimen in conjunction with phenobarbital. There are, however, many cases which fail to respond satisfactorily to phenobarbital, either because of excessive sedation or symptoms of toxicity when sufficient doses are used.

In 1937 Putnam and Merritt[1] studied the effects of a large number of drugs on the convulsive threshold of the cat to electrical stimulation. They found that the sodium salt of diphenyl hydantoin (dilantin sodium), a substance closely related chemically to the barbiturates, raised the threshold 400% without hypnotic effect, whereas sufficient phenobarbital to cause a similar effect caused profound central depression. The authors immediately gave the drug a clinical trial, and in 1938[2] reported a series of 118 patients with grand mal attacks poorly controlled with phenobarbital. Of these, 58% became free of convulsions. In 27% the number of attacks was decreased, and 15% showed a poor response. They also reported 74 cases of petit mal, with 35% being freed of attacks, 49% improved, and 16% receiving little benefit. Toxic symptoms were not common, and consisted of hyperplasia of the gums in children and mild skin rashes, none of which caused discontinuance of the drug. Other authors have confirmed their findings,[3, 4] and the drug is rapidly taking its

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place as the most valuable drug in the treatment of convulsive states.

Studies of the effect of dilantin sodium on a limited number of markedly deteriorated epileptics are now being carried out, and although the period of observation is relatively short as yet, the results are so striking that it was thought that a report would be of interest.

The 12 cases in our series were selected because of their marked deterioration due to epilepsy, in some cases superimposed on a congenital mental deficiency. They were receiving therapy with phenobarbital, 1½ grains at 5:00 p. m. daily, which, in some cases, reduced the number of seizures, but in most cases was of little value as can be judged from the first column in Table I. All cases were started on dilantin sodium 0.3 gm. a day in divided doses and increased to 0.4 gm. when it seemed indicated. The regular dose of phenobarbital was given the first day, ½ the dose the second and third days, and then discontinued since it has been reported that a sudden change in therapy may temporarily increase the number of seizures. Careful observations were then made of the number and character of their convulsions and of changes in mental alertness and social behavior. No attempt was made to restrict their water or food intake except to prevent the eating of large quantities of meat.

The results of the therapy are summarized in the table and in the case histories. It is of particular interest that, except for a mild papular rash in Case 9 lasting for ten days which cleared up without stopping the drug, none of the cases demonstrated any of the toxic symptoms which have previously been reported.

TABLE I

Case No.	Attacks Per Month (Before Treatment)	Number of Attacks the Past Five Weeks While Receiving Dilantin Sodium 0.3 Gm. Per Day				
		1st	2nd	3rd	4th	5th
Case 1	5	5	3	3	4*	2
Case 2	3–5	1	1	0	0	0
Case 3	3–5	0	1	0	0	0
Case 4	4–6	0	0	0	0	0
Case 5	2–3	0	1	0	2*	0
Case 6	4–6	1	0	0	0	0
Case 7	10–18	10	3*	1	0	1
Case 8	7–12	1	2	1	0	1
Case 9	35–40	5	1	0	0	1
Case 10	10–12	1	0*	0	0	0
Case 11	45–55	5	2*	1	1	2
Case 12	11–13	1	1	0	0	4†

*Began receiving 4 gm. per day
†Dietary indiscretion

REPORT OF CASES

Case 1. Female, age 16; weight 124 lbs. Mental diagnosis: epileptic idiot, grand mal type. She averaged five convulsions per month before treatment. This girl is of very low mentality with a mental age of less than 2 years. Failure to show progress was probably due to her low mentality. She remains dull and is unimproved.

Case. 2. Female, age 31; weight 130 lbs. Mental diagnosis: epileptic idiot, grand mal type. She had three to five convulsions per month previously. She is unimproved mentally.

Case 3. Female, age 14; weight 103 lbs. Mental diagnosis: epileptic moron, petit mal type. She averaged three to five seizures per month previous to treatment. Mentally she is not depressed in any way and is as bright as she was before treatment.

Case 4. Female, age 18; weight 119 lbs. Mental diagnosis: epileptic idiot, grand mal type. She had four to six convulsions per month previous to treatment. She is a very happy child and was unchanged by treatment.

Case 5. Female, age 28; weight 119 lbs. Mental diagnosis: epileptic idiot, grand mal type. She averaged two to three convulsions per month previously. This girl is unable to walk and sits around or stays in bed all of the time. Mentally she has not improved.

Case 6. Female, age 40; weight 125 lbs. Mental diagnosis: epileptic moron, grand mal type. She averaged four to six convulsions per month previously. She has not been depressed and her general mentality is as it was before treatment was started.

Case 7. Female, age 14; weight 84 lbs. Mental diagnosis: epileptic idiot, grand mal type. She had ten to eighteen convulsions per month previous to treatment. Mentally she has been brighter and happier since treatment.

Case 8. Female, age 15; weight 88 lbs. Mental diagnosis: epileptic idiot, grand mal type. Previous to treatment she had seven to twelve convulsions per month. She is very dull and apathetic, walks and talks very little, and was unchanged by treatment.

Case 9. Female, age 10; weight 64 lbs. Mental diagnosis: epileptic idiot, grand mal type.

She had sixty-one convulsions the month of June and thirty-one in July. Since treatment was begun she has become much more playful and has shown much improvement.

Case 10. Male, age 15; weight 96 lbs. Mental diagnosis: epileptic idiot, petit mal type. Previously he had ten to twelve seizures per month. Two months previous to treatment this boy was very emaciated and defective. With treatment and regular feeding he has become much improved mentally and physically.

Case 11. Male, age 20; weight 118 lbs. Mental diagnosis: epileptic imbecile, grand mal type. Before treatment he had forty-five to fifty-five convulsions per month. This boy is not a congenital deficient but has become deteriorated due to his convulsions. He was unable to walk or talk. With treatment he has improved greatly and is able to walk and talk some.

Case 12. Male, age 15; weight 110 lbs. Mental diagnosis: epileptic moron, petit mal type. He had eleven to thirteen seizures per month previously. With treatment he has improved mentally in that he is able to increase his activities without precipitating attacks.

SUMMARY

The therapy resulted in marked improvement in nine cases, moderate improvement in two, and poor response in one with respect to convulsions. In addition, many were more alert and cooperative and showed an increase in activity. In view of the serious nature of these cases, these results are very encouraging and further studies are now in progress.

Health and the War Effort—The war effort has placed on the entire citizenry unexpected responsibilities in relation to health. The expansion of the war effort, including the construction of camps, supply depots, ammunition plants, and the increase in our armed forces, has resulted in an enormous influx of war workers in many localities throughout the southern states. In practically none of the communities which were involved was it possible to house or care adequately for the sudden increase in population. The health problems became acute, especially those involving housing, safe water supplies, adequate sewage disposal facilities, sanitation of food establishments and medical care. It was and continues to be necessary for many workers to live in trailers, grouped in trailer camps. Proper sanitation in this form of habitation has been and still is a problem.—*Riggin, South. M. J., Dec.* '42.

BENIGN OVARIAN TUMOR

WITH BILATERAL HYDROTHORAX AND ASCITES

REPORT OF CASE

By

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The purpose of this case report is threefold: (1) to bring to your attention a well established but infrequent syndrome which, apparently, many of our well informed colleagues are yet unaware of; (2) to emphasize the sameness in clinical picture with that of ovarian malignancy with metastasis, and to urge the differential diagnosis, even by laparotomy, in order that the patient with a benign syndrome may be completely cured; and (3) to add another to the small number of complete histories reported.

REPORT OF CASE

I. M., colored female (Hillman Hospital No. 152839), age 50 years, was admitted to the Hillman Hospital October 24, 1941 with a working diagnosis made by the resident of carcinoma of the ovary with peritoneal metastasis.

Patient complained of loss of weight, weakness, shortness of breath on exertion, and a tumor in the abdomen. She stated that in December 1940 she noticed first a small nodule in the left groin, which had grown steadily with gradual enlargement of the abdomen. On May 5, 1941 she was seen in the Outpatient Department, at which time she reported weakness, loss of weight, and a growing, movable hard tumor in the abdomen. Cervical biopsy was done but the patient did not return to the Outpatient Department until just prior to admission. At this time the abdomen was larger than a full-term pregnancy. Dyspnea had developed, and weakness, with loss of weight, had advanced.

Past History: Usual childhood diseases. Typhoid in 'teens. No operations. Wassermann repeatedly positive.

Menstrual History: Onset at 13, 28-day interval. 4-day duration, using 10 to 12 pads a period. Menopause one year ago with occasional spotting of blood since.

Obstetric History: Gravida III, Para II. One miscarriage.

Physical Examination: Pulse 90, temperature 99° F., and respiration 20. Blood pressure 140 systolic and diastolic 100. Patient appeared well developed, underweight, and chronically ill. General physical examination was negative except as follows: *Chest*: Symmetrical and equal expansion of a shallow type. Percussion note is dull to flat posteriorly from the angle of the scapula

*Read before the Association in annual session, Montgomery, April 21, 1942.

down on both sides. No respiratory sounds or rales can be heard over this area. Dullness is also noted in each axilla to the level of the 8th rib on the right and to the 9th on the left. Heart to percussion is normal in size and shape, regular with no murmurs. *Abdomen*: Ovoid and distended. It is larger than a full-term pregnancy. There is a definite fluid wave over the abdomen. A ballotable, movable, and firm tumor is palpated to the left of the mid-line. It measures about 15 centimeters in diameter. *Pelvic*: Parous outlet. Perineum poor. Scanty, white discharge is present. External genitalia are normal. Cervix is small and in pelvic axis. The uterus and adnexae cannot be felt. A hard tumor can be felt high on the left side and is freely movable.

Laboratory: May 5, 1941. Wassermann 4 plus. Sedimentation rate 18 mm. in 22 minutes. Hemoglobin (Sahli) 64 per cent. Cervical biopsies, chronic cervicitis. *Urine*: 10-25-41. Catheterized specimens were normal. *Blood*: Hemoglobin 62%. Leukocytes 8,550 with 76% neutrophils. Sedimentation rate 18 mm. in 25 min. Wassermann: 2 plus. Blood chemistry: Normal. Serum protein 6.8 mg. (normal). Prothrombin time 8 seconds. *X-rays*: Chest: 10-27-41. The right diaphragm is high and the costophrenic angle is partly obliterated. Irregular density throughout the base of the left lung field with an obliteration of the costophrenic angle. Heart is enlarged. 11-6-41. The bases of both lungs show a slight increase in density, but is much better than previous film. *Peritoneal fluid*: Amber color, transudate. Sp. gr. 1.015. Cell count and protein estimation not done. *Microscopic report*: 10-28-41. Right ovary, dermoid cyst. Left ovary, fibroma of ovary. (Meigs' syndrome.) Oviducts normal.

Preoperative Diagnosis: 1. Benign fibroma of left ovary with ascites and bilateral hydrothorax (Meigs' syndrome). 2. Possible ovarian neoplasm with ascites and metastasis to the chest. 3. Syphilis.

Operative Procedure and Pathology: On October 28, 1941, under spinal anesthesia, the abdomen was opened by a lower mid-line incision. Nine quarts of clear amber-colored fluid were removed from the abdominal cavity. The peritoneum was hyperemic and appeared congested, as in tuberculous peritonitis with ascites. No growths or nodules were found on the peritoneum or the bowel. A hard, solid, grapefruit-sized tumor was attached to the ovarian ligament by a two-inch pedicle. There were no adhesions to the tumor and the left ovary was apparently a part of the tumor. The right ovary was two and a half times normal size, and cystic. The right ovary and oviduct with tumor and left tube were removed. All other pelvic viscera were normal and were not removed. Recovery was uneventful and there were no signs of reaccumulation of ascites. X-ray of the chest on the 8th postoperative day indicated that pleural effusion had almost disappeared. Patient was discharged from hospital on 16th postoperative day in good condition.

Progress Note: The patient was seen March 23, 1942. She had gained strength, 17 pounds in weight, and felt entirely well. Ankle edema and dyspnea had disappeared. There was no suggestion of fluid in the abdomen, and chest x-ray demonstrated the absence of pleural effusion.

Discussion: Fibroma of the ovary with ascites and hydrothorax is now accepted as a definite syndrome. Meigs, in May 1939, reported complete histories of fifteen collected cases, the first of which was reported by Cullenworth of Manchester, England, in 1879. Bomze and Kirshbaum added two complete cases in August 1940. More recently, MacFee, Harris and Meyer, and Lock and Collins have reported one case each. In September 1941, Meigs, in discussing Goodall's paper on Malignancy of the Ovaries, stated that twenty-six cases have now been reported. Though the syndrome is infrequent, there certainly must have been a number of unrecognized cases.

Ovarian fibroma is a relatively common lesion accounting for from 2 to 7.6 per cent of all ovarian lesions according to several authors. Meigs and Cass in their review of the literature found that various authors reported that from 13.7 to 40 per cent of all ovarian fibromata are accompanied by ascites. Hoon, of the Mayo Clinic, reported two cases of ovarian fibromata with ascites and hydrothorax out of 4,175 ovariotomies. The infrequency of this syndrome is apparent by the small number of cases reported.

In this and all cases reported, the tumors were fibromata and were made up of interlacing bands of tough, white connective tissues with cystic areas. The cyst represents areas of liquefaction following interference of blood supply. The fibrous connective tissue of the ovarian stroma gives rise to this tumor.

This condition may occur at any age after maturity but is most common after the menopause. The youngest was 31 and the oldest 67 in cases reviewed. The site of tumor occurrence was of about equal frequency. In two cases the fibroma was bilateral. Thirteen cases had right chest effusion only, four the left side only, and three had fluid in both sides. Parity, marital status, and race have no relation with its occurrence. The symptoms were about the same in most cases, and were usual for ascites and pleural effusion. Extremity edema was not the rule, occurring in five cases, and one of these was complicated by pregnancy and eclamptogenic toxemia.

The laboratory picture of most cases was surprisingly good. Anemia was mild. Blood chemistry and urine were normal. The fluid in all cases was transudate and of low specific gravity. Neither the cell count nor protein content was frequently reported. Of the 20 cases reported, 16 were considered as probable malignancy, until laparotomy proved otherwise. This stresses the urgent necessity to explore every malignancy suspect that presents ascites who can possibly undergo the procedure. Thus, an occasional benign lesion will be found and a complete cure will result.

The end results of the 20 cases reviewed have been very good. Eighteen have been cured and two have died. One of these was not operated on, and indicated what the end results would be if treated only palliatively. The other death was complicated by a six-months' abortion and eclamptogenic toxemia and occurred after an exploration, with a biopsy of tumor, rather than removal due to the patient's poor condition.

The cause of the ascites and pleural effusion is an unsolved problem. Its solution has been offered on the basis of anatomic and chemical considerations.

Olehausen stated that ascites was due to mechanical obstruction. Schauta thought it due to hyperemia of the peritoneum as a result of mechanical irritation. Pfannenstiel thought the ascites was the result of peritoneal secretion caused by a degenerating tumor.

Attempts to explain the presence of both pleural effusion and ascites by defects in the diaphragm have been made. The fact that in early embryonal life the pleural and peritoneal cavities connect has suggested the possibility of small congenital hernias in the diaphragm, permitting the exchange of fluid from one cavity to the other. This does not seem possible since the tapping of one cavity does not reduce the amount of fluid in the other. (Twelve of Meigs' fifteen collected cases had both pleural and peritoneal cavities repeatedly tapped.)

Explanation of the fluid on a chemical basis is a distinct possibility, for transudate fluid collects in the body cavities when there is a hypoproteinemia or an upset in the serum protein and serum globulin ratio. In such instances edema is usually generalized, as in nephrosis. In this case and five others a slight edema of the lower extremities was observed. However, the serum protein, the blood chemistry and prothrombin time were all normal. Two other cases had normal serum protein. Perhaps the chronic trauma of a movable tumor disturbs the relationship of the intra- and extracapillary pressure of the peritoneal capillaries, resulting in a local loss of protein and a serous effusion. This case presented a markedly hyperemic peritoneum but the protein content of the ascitic fluid was not estimated.

Bomze and Kirshbaum suggest a low grade cardiac decompensation as a possible cause for the effusion, and report necropsy and electrocardiographic evidence of cardiac disease in their two cases to substantiate it. Here again a more generalized edema should be expected, which is the exception rather than the rule. The subsequent course of most of the patients after laparotomy has not been that of mild cardiac decompensation.

Meigs accepts and presents the "alarm reaction" of Selye as an explanation as to the cause of the effusion. Selye reports that accumulation of pleural and peritoneal fluid is a constant finding when animals are exposed to irritating agents. This, he states, is particularly true "when irritating substances have been introduced into the peritoneal cavity." According to Meigs, "Selye considers it possible that the fibroma might have acted as an irritating agent and that 'the accumulation of pleural fluid was a direct result of the ovarian tumor.' In this experimental work in animals (rats), it has been shown that repeated minor traumata cause a resistance to be built up, and the appearance and the functions of the organs return to practically normal. After a period of one to three months, with continued injury, the animals lost their resistance and succumbed with symptoms similar to histamine toxicosis or anaphylactic shock, plus accumulation of pleural and peritoneal transudate. It is possible to think of the fibroma as an irritating and shocking agent. At some time in the patient's life a general adaptation to continued injury is brought about, and later, due to its continued presence, a chronic form of 'general alarm' phenomena sets in."

If such a mechanism be the cause of pleural transudate, why shouldn't other pelvic tumors cause a similar effusion? U. J. Saloman, in 1934, reported sanguineous fluid in the right chest concomitant with a large in-

traligamentous fibroid that cleared entirely after removal of the tumor. W. T. Danreuther, in 1937, discussing Meigs' and Cass's paper, presented a case of benign ovarian cyst with pleural effusion that later cleared on removal of the cyst. In November 1938, Dr. W. F. MacFee reported a similar finding with an ovarian cyst that also cleared on removal. Meigs contends that it is possible that other tumorous lesions of the pelvis may be associated with pleural and peritoneal effusions.

CONCLUSIONS

1. A benign fibroma of the ovary with ascites and bilateral hydrothorax (Meigs' syndrome) is reported. Twenty previously reported cases are discussed.

2. The similarity of the clinical picture of this benign and curable syndrome to that of a more serious lesion is emphasized.

3. Exploration of the abdomen, if possible, is urged when ovarian carcinoma is suspected.

4. No adequate explanation of either the ascites or pleural effusion has been offered.

5. The internist and surgeon should keep in mind such a lesion when confronted by unexplained effusions of the pleural and peritoneal cavities.

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DISCUSSION

Dr. K. E. Luckie (*Selma*)—In listening to this very excellent presentation of an interesting case, it is apparent that there are two special points of interest: first, the diagnosis; and second, the causative factors in producing the syndrome.

The general tendency among surgeons confronted with this case would be to make a provisional diagnosis of carcinoma of the ovary with peritoneal, pleural and possibly liver metastasis. A diagnostic paracentesis might be carried out. A serosanguineous fluid with high cell count certainly would be corroborative of the diagnosis; a straw-colored transudate with low cell count, such as Dr. Jones describes, might make the character of the case a little less certain. Although few of these cases of Meigs' syndrome have been encountered, it would be well to follow Dr. Jones' suggestion to explore all cases of suspected ovarian malignancy routinely in the hope that a benign lesion may be found.

The second point of interest in considering this case is the cause of fluid production in the large serosal cavities; and why it is principally confined to fibromata of the ovary, which, considering the structure of this organ, are rather rare tumors. I am sure all of you have seen peritoneal fluid in cases of uterine fibroid, both pedunculated and intramural, ovarian cysts and even tuboovarian abscesses, although rarely in the amount of nine quarts as found by Dr. Jones. I have recently checked the operative records for the past three years at our hospital in an endeavor to discover whether there were any cases of pelvic tumors associated with pleural effusions during this period. One case underwent a rib resection for empyema three weeks postoperatively. Otherwise no connection could be demonstrated. Ovarian tumors are, however, notoriously peculiar in their behavior. Some years ago, the pathologist, in reporting upon an ovarian specimen which I had just removed, suggested that the thyroid tissue present was, in his opinion, beginning to form a colloid goiter.

The presence of pleural fluid in cases of ovarian tumors and peritoneal irritation gives rise to many speculative questions. The mechanism causing it is as yet unknown. As has been pointed out, various theories, both physical and chemical, have been advanced to account for this phenomenon but all somehow fail to answer satisfactorily the question of how it is produced. Is it possible that many cases of postoperative pulmonary complications and accidents following abdominal surgery can be traced to a pleural reaction caused by peritoneal trauma? Is it beyond the realm of possibility that certain pleural effusions of undetermined origin and of tuberculous involvement may be caused by an unsuspected peritoneal irritation or tuberculous peritonitis?

These problems are certainly real enough to merit thought and consideration, but until additional experimental work can be done, until more of these types of cases can be worked up and reported, they must for the present remain unanswered.

THE MANAGEMENT OF THE THIRD STAGE OF LABOR*

By

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The management of the third stage of labor concerned the ancients probably as much as those of modern times, for a Moslem ecclesiastic called Tchelebi, in describing the confinement of the daughter of Sultan Murad IV, in the early 17th century, wrote:

"Great was the joy of the people when the birth of a daughter was announced; but when it was learned that because of an over-supply of adipose tissue the placenta was sticking to the heart of the lady sultan, their rejoicing turned to infinite sorrow. . . . When after three days the placenta was still not forthcoming, one of the midwives oiled her hand and arm with almond oil and inserted her hand and arm up to the elbow into the pelvis; after a few moments she produced a piece of tissue, saying, "At last the placenta." A second midwife said, "There should be more of it." Then, she introduced her hand and brought out additional pieces of tissue. Undergoing such torture the mighty Sultan's beloved daughter closed her eyes forever the next day."[1, 2]

Thus, a partial placenta accreta is recorded with a tragic end following mismanagement of the third stage of labor.

The third stage of labor represents the period from the birth of the child to the delivery of the placenta. Practically, however, the delivery of the placenta and the time immediately following are more important to the mother's immediate comfort and later well-being than the mere pause between the delivery of the infant and the afterbirth. It has been tritely said that the third stage of labor is the safest for the baby and the most dangerous for the mother, and this is entirely true. Some authors have felt so strongly that this latter period be emphasized that they have termed the period directly after the delivery of the placenta the fourth stage of labor.[3] This is not essential, for we are concerned with the management of the entire immediate postpartum period.

The conduct of the placental stage has as its objectives: 1. separation and expression of the intact placenta and membranes; 2. limitation of blood loss; and 3. avoidance of infection. The placenta is normally implanted on the anterior or posterior surface of the uterine cavity and rarely crosses the mid-line.[4] Recent x-ray studies have, by direct visualization of the placenta and the surrounding structures, noted that the situation of the placenta in the fundus or in the superior position of the uterus occurs in more than 80% of the cases.[5]

The separation of the placenta occurs through the spongy layer of the decidua basalis so that a portion of the latter is cast off with the placenta. Thus, a thin layer of maternal tissue is lost with the fetal organ: the placenta. The uterus, following the expulsion of the fetus, continues to contract and the fundus retracts. The muscle of the fundal area becomes thicker and the area of placental attachment becomes smaller. Finally, the compact placenta, having reached its limit of elasticity, becomes sheared off through the weakest zone in attachment "much like a postage stamp is torn off the sheet"[6] and this separation is aided in many instances by the formation of a retroplacental hematoma secondary to rupture of many small sinusoids during uterine contraction. Inasmuch as the periphery of the placenta is the more adherent portion, the contractile effect and the hydrostatic effect finally separate even this zone and blood escapes into the uterine cavity as a sign of placental sep-

*Read before the Association in annual session, Montgomery, April 21, 1942.

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aration. In a lesser number of cases, there is a marginal separation first, so that with retraction the lower edge of the placenta is separated slightly and bleeding from this portion occurs. Thus, again, bleeding is a sign of placental separation.[7]

Other cardinal signs of placental separation are: 1. a firmly contracting fundus;[8] 2. change in shape of the uterus from a discoid to a globular shape;[9] 3. a rising fundus due to contraction and retraction; 4. increase in the length of the cord; and 5. palpable, visible prominence above the symphysis (with the bladder empty). There are many more but these seem the most reliable.

There are abnormalities of attachment of the placenta and these are usually also anomalies of implantation. The placenta may be low-lying or a praevia; it may be cornual, or there may, by virtue of a too vigorous curettage in the past, injury, infection, myomata and the like, be an abnormal thinning of the decidua, and a placenta accreta or abnormally adherent placenta results. Placenta accreta may be partial, complete or incomplete, and this fact is most important of recollection because incomplete separation of the afterbirth may prevent delivery of the placenta. It is a rarity but is seen upon occasion, being reported by Irving and Hertig[10] as occurring once in 1,956 cases. The partial occurs twice as frequently as the total and may be met more often. It is thought that the following are possible etiologic factors: 1. manual removal of placenta in previous pregnancies; 2. miscarriage in previous pregnancies; 3. endometritis in previous pregnancies; and 4. cesarean section with damage to the endometrial surface.

Warnekros, using x-ray visualization of the placenta, reported two-thirds of the cases of placental separation occurring with the first or second postpartum contraction of the uterus.[7] This is attested to by our experience at the time of cesarean section. Leff, who observed that the placenta usually presents itself immediately after separation at or below the dilated external os of the cervix after the third, fourth or fifth contraction, exclusive of the first postpartum contraction, determined this fact by sterile vaginal examination in 11,000 cases.[3] Moreover, he reports that in time this separation occurs 2-5 minutes after tying of the cord or 8-9 minutes after delivery of the infant. It is maintained by others that the stronger the immediate contractions postpartum are, the earlier the separation and the prompter the expulsion.[8]

Failure of the normal mechanism of placental separation and expression in the third stage of labor is usually due to: 1. abnormalities of the placenta or uterus; 2. increased uteroplacental cohesion; 3. absence of strong, effectual uterine contractions; and 4. tetany or spasticity of the uterus or ring formation. It is important to recall that if the placenta is neglected and not expressed promptly after its separation, an hour-glass contraction may occur or a closure of the cervix may result with later interference with expression. However, unnecessary or premature kneading or manipulation of the uterus or squeezing or pulling on the cord may cause partial separation of the placenta and needless bleeding may occur. This may also prevent expression of the entire placenta by alteration of the placental attachment.

The membranes are generally stripped away when the uterus contracts, though this separation generally occurs after the placenta is sheared off and when the afterbirth is expelled into the vagina. The membranes are of secondary importance, and even if left intra-utero never cause bleeding and only slight stasis of the lochial drainage. They need not, therefore, be removed manually if not recovered with the placenta.

Expression of the placenta is a development arising from dissatisfaction with the ancient method of delivery of the placenta by traction on the cord or by extraction of the afterbirth by manual means. Traction on the cord alone, besides being unsatisfactory due to tearing of the cord and blood loss, may lead to acute inversion of the uterus. As far as manual intervention is concerned, Peckham[11] noted a mortality of

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10.7% after manual removal of the placenta in 186 cases at the Johns Hopkins Hospital from 1891 to 1933. Arnell[2] reduced this mortality at the Charity Hospital, New Orleans to 6.5% in 152 cases but all deaths were due to infection and sepsis. Even with this latter figure, however, a grave risk overshadows the patient who must submit to manual removal of the placenta.

Crede's method, employed traditionally 5-10 minutes after the delivery of the infant, was designed to hasten the separation and expulsion of the placenta. However, Crede's method used too soon defeats its own purpose and causes incomplete separation of the placenta and gives rise to excessive bleeding. Secondly, it is a maneuver which few practitioners have mastered. Then too, Crede's method of placental expression uses the fundus of the uterus as a piston thereby forcing the placenta into the vagina after separation for final expression. This, too, is now considered improper, for the venous return of the uterine sinuses is shut off and the corporal vessels become overfilled, thereby resulting in considerable blood loss. What is more reprehensible is the forcing of the cervix to and beyond the introitus causing gross uterine contamination.[12]

Calkins advanced the management of the third stage of labor greatly by the observation that the uterus changes in shape from a discoid contour to a globular shape after placental separation. This is called Calkins' sign. However, until recently, he still employed the fundus as a piston for final expulsion of the afterbirth.[9]

The next advance was made by Pastore[13] who suggested that the assistant place one hand above the symphysis to support the fundus and to use the other hand to hold the fundus for discerning the changes in shape of the uterus evincing separation of the placenta as reported by Calkins. The fundus is next squeezed, preferably with a uterine contraction, and slight traction is exerted on the cord after it has been established that placental separation has occurred. This feature is important, for inversion is impossible after separation of the placenta. Thus, with gentle, well-timed manipulations, the placenta is expressed and the fundus as a piston is avoided. Contamination is also avoided.

Brandt[14] has recently suggested a simple and satisfactory method of expressing the placenta, which is both sound and especially applicable to unassisted or home deliveries. After several postpartum contractions of the uterus, the fundus is gently palpated and when the changes indicative of placental separation are noted, the hand is placed over the fundus and the corpus is raised out of the pelvis, the other hand resting over the symphysis while this is done. The lower hand is at the same time pushed downward, aiding in forcing the placenta into the vagina. Slight traction on the cord is permissible when it does not increase in length with elevation of the fundus.

Pituitrin injected intramuscularly immediately after delivery of the infant, and, more recently, ergotrate injected intravenously when the anterior shoulder of the infant is delivered, undoubtedly hasten the separation of the placenta and lessen blood loss by prompt uterine contraction. The pituitrin acts efficiently about three or four minutes after injection, but the ergotrate acts almost at once. Hour-glass contracture of the uterus and tetanic uterine contraction not infrequently interfere with expression of the afterbirth even though separation is hastened. This defeats the purpose of the medication and manual removal of the placenta becomes necessary. Moreover, occasional shock with pituitrin is not so rare as was once supposed. The use of drugs of this type had better be used, therefore, only in well-organized hospital services, for the disadvantages may outweigh the advantages, especially in the hands of the unprepared.

Although mindful of probable difference of opinion, I must state my aversion to repair of an episiotomy while awaiting for the separation and expression of the placenta. Most often, it will be expressed promptly enough and haste is needless. The anesthetist should increase the oxygen and stimulation of the uterus to contract with lightening of the anesthesia will complete the separation and will relieve the obstetrician of anxiety

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and preserve his repair from later breakdown if manual removal is necessary or if perineal distention is necessitated. Usually, bleeding from large perineal varices will require immediate attention, but, in general, the placenta and the proper management of the third stage of labor are more important than a mere repair. Adequate exposure of the cervix or repair of a sulcus laceration, supposing that persistent bleeding is noted after the placenta is expressed, is hindered by complete perineal repair. An attitude of indifference and neglect while executing a repair will foster improper handling of the fundus, and retroplacental blood may collect in a boggy uterus with the placenta lying free in the lower segment to dam back the blood. With final expression of the placenta later, the blood loss may be alarming.

It has been definitely established that operative delivery, heavy analgesia, deep anesthesia and shock interfere with the normal mechanism of labor and increase bleeding during the third stage of labor.[15] Local anesthesia with pudendal and perineal block will reduce bleeding to a minimum and will allow prompt, strong, postpartum uterine contractions with prompt expulsion of the placenta as the rule. Height and weight of the mother and total length of the labor have a small but significant relation to blood loss. On the average, the tall, heavy woman who has a long labor will loose more blood than a short woman with a short labor. A large baby and large placenta will entail larger blood loss than the opposite. However, and I quote from Abramson,[16] "Not one of these factors approaches the importance of the management of the third stage of labor in effect. For, it is through improved technique of management that the average blood loss has been reduced from over 500 cc. at the beginning of the century to about 250 cc. at the present time." This note is emphasized also by Calkins and Pastore who have written extensively upon blood loss during labor.

Especial attention should be directed to those patients having a long labor, hydramnios, multiple pregnancy, myomata, severe heart disease or shock for uterine inertia and secondary relaxation of the uterus and hemorrhage. Although I favor the intravenous or intramuscular injection of ergotrate after delivery of the placenta with subsequent doses to insure contraction of the corpus and to limit blood loss, this medication does not take the place of gentle fundal massage and elevation of the uterus and personal observation of the patient for one half hour to one hour postpartum. Bleeding during and after the third stage of labor has too long been regarded as a normal accompaniment of parturition. In fact, this has been the vogue since the recognition by obstetricians of hemodilution of pregnancy. Naturally, the pregnant patient can, if called upon, loose more blood than the non-pregnant patient but she should not have to do this because of neglect or oversight. The obstetrician should never have to be called back to see a patient. for if a sufficient period of observation has been respected, the status of the patient and her safety will be insured.

There are probably only three universal indications for manual removal of the placenta.[11] They are: 1. hemorrhage; 2. retention of the placenta, either due to abnormal adherence or failure of all attempts at expression after 1-2 hours; and 3. desire to terminate delivery of the placenta and the third stage promptly, as after version and extraction where manual exploration of the uterus may be indicated to rule out rupture. Other indications are probably not valid in view of the facts and the morbidity-mortality rates, for almost 50% of all patients having to undergo manual removal of the placenta will be febrile, and although manual removal of the placenta has very definite indications, its employment should be strictly limited. When it is anticipated, the patient should be redraped, the operator should change gloves and gown, and anesthesia should be employed, for nothing will throw a patient into shock faster than the trauma of this procedure, especially when hemorrhage has occurred.

I should like to recall an almost forgotten procedure which will frequently cause the separation of an adherent placenta: That is the Mojon-Gabston technique. Mojon in 1820 conceived of the idea that if fluid were injected into the umbilical vein of the cord the placenta would swell and, by enlargement of the placental surface, aid in shearing off the placenta. He first used acidulated water and later wine. The procedure worked, and were

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it not for the infection and lochia following the wine and unsterile water the procedure might not have been forgotten. It was recalled almost a century later, and for the past ten years numerous papers have appeared concerning the use of this maneuver, and British authors, including Currie[17] and Moore,[18] are most enthusiastic about their results.

The method consists of swabbing the cord with alcohol. A trocar is inserted into the umbilical vein, the largest vessel in the cord, about 8 inches from the vulva. About 450 cc. of normal saline are slowly injected. It has been found that a normal placenta can take 500 cc. of fluid without leakage. By purely mechanical action, the placenta swells, the uterus rises in the abdomen, and the corpus is stimulated thereby to contraction. After several minutes, the placenta generally separates and will be expressed.

After this type of treatment, the incidence of manual removal of the placenta was reduced in the Leeds (England) Maternity Hospital from 25 in one year to 2, with a concomitant reduction in morbidity.[17] At the St. Vincent's Hospital in Birmingham, at the suggestion of Dr. J. M. Mason, a large syringe and cannula are kept sterile for the eventuality of a retained placenta and we hope that in the future it may be possible to report a series treated in this way.

What shall we do with the neglected patient or with one where facilities or conditions do not favor manual removal of the placenta? The late John Polak astounded the American Gynecological Society in 1915 with the report of a case in which the placenta was allowed to remain in the uterus for four days before expression was effected. There was no bleeding and the patient did well after the delivery of the afterbirth.[19] He vigorously championed this ultraconservative attitude of aseptic expectancy. However, this may become sterile neglect. When adherence of the placenta long persists, one should think of a partial or complete placenta accreta or other abnormality and take the patient to a hospital, or prepare her for examination under suitable auspices. If the placenta will not allow separation by gentle means, hysterectomy is indicated. Preparations should include typing and matching of the blood, intravenous solutions while the procedure is in effect, and full surgical assistance.

What to do for the neglected, infected, febrile and dangerously ill patient who still retains a placenta is still another thing. It seems to be the consensus of opinion at this time that it is best to treat such a patient symptomatically with fluids, transfusion, chemotherapy, oxytocics and other methods at hand, with manual removal of the afterbirth following improvement in her general status. This obtains in the patients retaining sizable placental fragments also, for intervention during severe sepsis only serves to spread the infection.[19] If bleeding begins, however, manual removal must be speedily effected, but again under aseptic precautions.

Should we pack every patient who requires removal of the placenta or a cotyledon? Certainly not. For I believe, as I know you do, that most of these cases will cease bleeding when the uterus contracts well and when the patient reacts. With persistent or brisk bleeding, however, no hesitancy should be brooked, for there is no more fearsome occurrence in obstetrics than an unexpected or severe postpartum hemorrhage. When packing is necessary, wide gauze, a lot of it, sterile technique and anesthesia are prerequisites. Whether a mechanical packer is used is probably not important, for tight manual packing is very successful indeed.

It is probable that the art of obstetrics is no better exemplified in the conduct of a delivery than in the management of the third stage of labor.

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18. Moore, W.: The Treatment of the Retained Placenta, Brit. M. J. 1: 506 (March 11) 1939.

19. Wilson, K. M.: The Management of the Adherent Placenta in the Presence of Infection, Am. J. Obst. and Gynec. 40: 854-859 (November) 1940.

Postoperative Care of Hand Infections—Immobilization of the hand is paramount. No surgeon would fail to immobilize a fractured leg or arm. Often one fails to remember that after an extensive injury to the soft part by trauma or infection, immobilization prevents pain and favors healing. If the finger is the only part that is involved, put this on a splint. If the hand is involved, put the entire hand on a splint. Put the hand to rest. It is ideal to put the hand up in a position of function while it is convalescing. If the hand is involved more than the finger, allow the fingers to have slight flexion and the hand extended in a cocked-up position. This is a position of rest.—*Grubbs, Virginia M. Monthly, Dec.* '42.

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ATYPICAL PNEUMONIA

During the fall and winter months of 1941-1942 and again in the late summer and fall of 1942, an unusual acute infectious disease of the respiratory tract has occurred in epidemic form in various parts of the United States. The outstanding feature of the disease is the relative frequency with which pneumonia can be demonstrated by x-ray examination during the acute phase despite little or no signs of pneumonia by physical examination.

In 1935 Bowen[1] described an epidemic disease which he termed acute influenzal pneumonitis, and again in 1936 Allen[2] published an account of sixty-eight cases of what was called acute pneumonitis. Smiley, Showacre, Lee and Ferris[3] in 1939 reported their clinical findings from a study of eighty-six patients with so-called acute interstitial pneumonitis. Reimann,[4] 1938, Kneeland and Smetana,[5] 1940, and Longcope,[6] 1940, published clinical studies of cases of pneumonia of undetermined etiology which suggest on clinical grounds that the disease described by these various writers was due to a virus. Adams, Green, Evans and Beach[7] have described an epidemic of what they call primary virus pneumonitis, which they observed in a group of young infants during the winter months of 1940-1941. The mortality in this series of cases was 14 per cent. Pathologic studies showed cytoplasmic inclusion bodies in bronchial epithelial cells which, in the absence of any definite evidence of pathogenic bacteria, led them to the conclusion that the disease was due to a virus.

Attempts at isolation of the causative agent from patients having so-called atypical pneumonia have been largely negative. Some of the reported cases have had a clinical course similar to that produced by infection with one or the other viruses of the psittacosis or ornithosis group (parrot psittacosis, pigeon psittacosis, and the meningopneumonitis virus of Francis and Magill). However, recent investigations of atypical pneumonia cases now occurring in epidemic proportions have failed to reveal the nature of the infecting agent.

The respiratory disease which is now prevalent is characterized by an abrupt or gradual onset over a period of twenty-four to forty-eight hours, during which time the patient usually complains of chilly sensations, fever, muscular pains, general malaise, and a dry non-productive cough. There may also be mild to severe headache, burning of the eyes, and a mild soreness of the throat. The majority of the patients are febrile for only a few days, rarely having a temperature above 103° F. In some instances the patients may become acutely ill and develop cyanosis and other signs of circulatory failure. In general, however, the patients are acutely ill only a short time and, in adults at least, the infection is practically never fatal. The cough soon becomes productive of a thick mucopurulent sputum which is often blood tinged. Resolution of the pneumonic process is usually slow and may take two to three or more weeks. Nevertheless the patients are usually afebrile during this time and may be able to be up and about and relatively comfortable except for weakness and persistent cough. Fever may persist for seven to

1. Bowen, A.: Am. J. Roentgenol. 1935, 34, 168.
2. Allen, W. H.: Ann. Int. Med. 1936, 10, 441.
3. Smiley, D. F.; Showacre, E. C.; Lee, W. F., and Ferris, H. W.: J. A. M. A. 1939, 112, 1901.
4. Reimann, H. A.: J. A. M. A. 1938, 111, 2377.
5. Kneeland, Y., and Smetana, H.: Bull. Johns Hopkins Hosp. 1940, 67, 229.
6. Longcope, W. T.: Bull. Johns Hopkins Hosp. 1940, 67, 268.
7. Adams, J. M.; Green, R. G.; Evans, C. A., and Beach, N.: J. Pediat. 1942, 20, 405.

ten days but rarely continues until the pneumonic process has completely resolved. In some instances there may be no appreciable respiratory symptoms during the entire pneumonic infection.

Physical examination during the acute phase usually shows a mild pharyngitis but seldom reveals any definite signs of pneumonia. There may be localized dulness to percussion over the lung and auscultation usually reveals rhonchi and adventitious sounds such as occur in asthmatic patients. There may be focal diminution in the conduction of breath sounds. In some instances, however, it is possible to elicit subcrepitant rales following cough and deep inspiration. During the period of resolution subcrepitant rales after cough are heard in a high percentage of the cases. In some patients it is not possible to elicit any physical signs of pneumonia at any time during the disease despite definite x-ray evidence of pneumonia.

The radiographic picture seen in patients with this infection is rather characteristic. The hilar shadow is broadened, unilaterally or bilaterally, and the bronchial markings may be accentuated. The pulmonary lesion is commonly single and consists of a poorly defined, perihilar area of mottled increase in density extending toward the periphery in a wedge or fan shape, fading into normal lung tissue before the periphery is reached. The lesion is most commonly seen in one or the other cardiophrenic angle but may occur in any lobe. The pneumonic process practically never involves an entire lobe. On clinical and roentgenologic grounds the pathology appears to be an interstitial pneumonia developing from the bronchi.

Laboratory studies are not particularly helpful except for the sputum examination which serves to rule out other diseases. During the acute phase there may be a leukopenia but in the majority of cases the total white cell count is within normal limits or slightly to moderately elevated. With progression of the disease there is a relative increase in the percentage of mononuclear cells. A considerable number of the patients develop a slight eosinophilia.

It is likely that most persons who contract this type of infection as it occurs in epidemic form will not develop pneumonia but will have a severe upper respiratory infection followed by a persistent bronchitis. Excessive exertion, exposure and fatigue may be important predisposing factors for the development of pneumonia. Relapses may occur if patients return to work before the pneumonia has resolved.

The various sulphonamide drugs apparently have no effect upon the course of the disease, and treatment consists of rest in bed and symptomatic drug treatment. It may be necessary to give oxygen in some cases.

It must be emphasized that a diagnosis of epidemic atypical pneumonia should not be made until the physician has ruled out pneumococcal, streptococcal and tuberculous infections. The disease may be confused with influenza, especially if the two diseases are prevalent at the same time.

MEN IN SERVICE

BY COUNTIES
JANUARY 15, 1943

Baldwin
William C. Holmes Foley

Barbour
Walter S. Britt, Jr. Eufaula
Hugh G. Clark Clayton
Edward T. Comer Eufaula
Jose' M. Rodriguez Louisville

Bullock
Hubert R. Owen Union Springs

Butler
Otis F. Gay Greenville
James E. Kendrick Greenville
Aubrey A. Stabler Greenville

Calhoun—(12)
James W. Britton Anniston
Alfred M. Chilton Anniston
Hunt Cleveland Anniston
George D. Gross Anniston
Thomas F. Huey, Jr. Anniston
John M. Kimmey Anniston
James H. Meigs Anniston
John D. Rayfield Anniston
George K. Spearman Anniston
Thomas E. VanSant Piedmont
William E. White Anniston
Gerald G. Woodruff Anniston

Chambers
John M. Clack Fairfax
A. I. Perley Lafayette

Cherokee
William W. White Center

Choctaw
Thomas C. Elliott — Butler
Virgil S. Gully — Butler
Clarke
Isee L. Connell — Grove Hill
Claude M. Warren — Jackson
Colbert
Robert E. Gary — Tuscumbia
Conecuh
R. Walker Hendrix — Evergreen
Covington
Edward R. MacLennan — Opp
Lester C. O'Neal — Andalusia
Lawrence S. Woodley — Andalusia
Cullman
Thomas D. Beatty — Cullman
Herbert R. Markheim — Cullman
Dale
Norman W. Holman — Ozark
Gordon R. Smith — Ozark
Dallas
Julian P. Howell — Selma
Samuel M. Kirkpatrick — Selma
Randolph N. Long — Selma
DeKalb
Carl A. F. Holler — Ft. Payne
Duward O. Wright — Ft. Payne
Elmore
Ernest O. Majure — Wetumpka
Escambia
Maurice J. Abrams — Brewton
Iva G. Murphy — Brewton
Alfred J. Treherne — Atmore
Etowah—(16)
William O. Anderson — Alabama City
James E. Bobo — Gadsden
Chas. R. D. Burns — Alabama City
John Woodfin Davis — Alabama City
James O. Finney — Gadsden
Henry Grady Ford — Gadsden
Joseph W. Ford — Gadsden
J. P. Gillespie, Jr. — Gadsden
Joel J. Holladay, Jr. — Gadsden
L. R. Lonnergan, Jr. — Gadsden
Edward A. McEver — Gadsden
John T. McNabb — Alabama City
William Noble — Attalla
John T. Sheppard — Gadsden
S. Paul Simpson — Alabama City
Wyatt C. Simpson — Gadsden
Fayette
Homer D. Barber — Fayette
Franklin
John D. Burns — Russellville
William H. Spruell — Russellville
William E. Wilson — Russellville
Geneva
Samuel W. Windham — Geneva
Greene
Dobbs Minot — Eutaw
David B. Snelling — Eutaw
Henry
Carl T. Martin — Headland
Houston
Mason C. Rowe — Dothan
Thomas B. Woods — Dothan
Jackson
E. Julian Hodges — Scottsboro
Jefferson—(77)
Henry L. Anderson — Birmingham
Neal L. Andrews — Birmingham
William C. Barcliff, Jr. — Birmingham
Ralph C. Benson — Birmingham
Hunter M. Brown — Birmingham
Raymond R. Callaway — Birmingham
Alfred Cherry — Birmingham
H. Davis Chipps — Birmingham
Chalmers D. Collins — Birmingham
Ralls M. Coston — Birmingham
Daniel J. Coyle — Birmingham
William H. Darden — Birmingham
Marion T. Davidson — Birmingham
Joseph M. Donald — Birmingham
William L. Drake — Fairfield
Jules Gelperin — Birmingham
Edgar G. Givhan, Jr. — Birmingham
George R. Gordon — Birmingham
Albert H. Green — Birmingham
Gilbert B. Greene — Birmingham
George W. Griffin — Birmingham
Robert A. Hamrick — Birmingham
Gordon M. Hankins — Fairfield
Albert S. Hargis, Jr. — Birmingham
Seale Harris, Jr. — Birmingham
Russell G. Hightower — Fairfield
Winston H. Irwin — Birmingham
John F. Jenkins, Jr. — Birmingham
Jno. Sheffield Jordan — Birmingham
Sidney A. Kahn — Birmingham
Frank F. Kennedy — Birmingham
Claud B. Lavender — Fairfield
Julius E. Linn — Birmingham
Wilmot S. Littlejohn — Birmingham
Wm. W. Locke — Birmingham
William H. Long — Birmingham
Robert L. Lucas — Birmingham
Henry F. Martin — Birmingham
Harry Martz — Birmingham
Dan W. McCarn — Birmingham
Oscar C. McCarn, Jr. — Birmingham
George C. McCullough — Birmingham
James F. McDowell — Birmingham

Felix J. McGraw	Birmingham
James B. McLester	Birmingham
Nathan E. Miles	Birmingham
Donald A. Miller	Birmingham
Benjamin Morton	Birmingham
Jewett P. Motley	Ensley
Grover E. Murphy	Birmingham
William C. Parsons	Birmingham
Richard R. Patterson	Birmingham
Ezra B. Perry	Bessemer
Edwin H. Place	Birmingham
Louis C. Posey	Birmingham
Edward B. Robinson, Jr.	Fairfield
Mark M. Schapiro	Ensley
Edgar M. Scott, Jr.	Birmingham
Harold E. Simon	Birmingham
D. Driver Smith	Birmingham
Virgil D. Smith	Leeds
James S. Snow	Birmingham
S. Ralph Terhune	Birmingham
Landon Timberlake	Birmingham
John M. Townsend	Birmingham
J. Frank Trucks	Birmingham
Samuel P. Wainwright	Birmingham
George W. Warrick	Birmingham
William D. Warrick	Birmingham
Harry Weiner	Birmingham
Oliver W. Welch	Fairfield
Howard B. Williams	Birmingham
Joseph D. Wilson	Birmingham
Paul S. Woodall	Birmingham
Arthur W. Woods	Birmingham
S. Buford Word	Birmingham
Allen C. Young	Bessemer
Lauderdale	
William W. Alexander	Florence
Lance C. Price	Florence
Lawrence	
Clarence G. Farish	Moulton
Lee	
William Askew	Auburn
Jephtha W. Dennis	Auburn
Benjamin F. Thomas	Auburn
Limestone	
John S. Crutcher, Jr.	Athens
Arthur M. Shelamer	Athens
Gerald H. Teasley	Athens
Madison	
John H. Lary	Huntsville
William G. McCown	Huntsville
John D. Moorman	Huntsville
Harry J. Parker	Madison
Mobile—(27)	
Floyd T. Boudreau, Jr.	Mobile
A. J. Brown	Mobile
Norborne R. Clarke, Jr.	Mobile
Frances T. England	Mobile
Edgar C. Fonde'	Mobile
William G. Fonde'	Chickasaw
Samuel S. Gaillard	Mobile
Ivan W. Gessler	Chickasaw
Edward F. Goldsmith	Prichard
Andrew D. Henderson	Mobile
Vivian H. Hill	Mobile
Gayle T. Johnson	Mobile
Joe H. Little	Mobile
William R. Meeker	Mobile
William H. Minor	Mobile
Irving W. Moody	Mobile
John C. O'Gwynn, Jr.	Mobile
Clarence V. Partridge	Mobile
Alton R. Perry	Mobile
Mack J. Roberts	Mobile
Socrates H. Rumpanos	Mobile
William L. Sellers, Jr.	Mobile
Randolph H. Spitzberg	Mobile
Warren C. Stephens	Mobile
J. Leslie Taylor	Mobile
Arthur A. Wood	Mobile
Alfonse H. Zieman	Mobile
Montgomery—(30)	
J. Mac. Barnes	Montgomery
Haywood S. Bartlett	Montgomery
J. Warren Bickerstaff	Montgomery
Nathan Bograd	Montgomery
John L. Branch	Montgomery
William R. Britton	Montgomery
Henry W. Clapp	Montgomery
Henry J. Climo	Montgomery
Nace R. Cohen	Montgomery
Henry C. Collins	Montgomery
John Walter Davis, Jr.	Montgomery
James H. Farrior	Montgomery
Harry Glazer	Montgomery
William A. Gunter, 3rd	Montgomery
Luther L. Hill, Jr.	Montgomery
B. Franklin Jackson, Jr.	Montgomery
Elias N. Kaiser	Montgomery
Farris J. Martin	Montgomery
John A. Martin	Montgomery
Henry H. Meadows, Jr.	Montgomery
Paul S. Mertins	Montgomery
David B. Monsky	Montgomery
John Newdorp	Montgomery
Robert Parker	Montgomery
Herman L. Rosen	Montgomery
Robert E. Rothermel	Montgomery
Samuel W. Shelton	Montgomery
Francis M. Thigpen	Montgomery
J. Harold Watkins	Montgomery
Clarence K. Weil	Montgomery

Morgan
William H. Block — Hartselle
Garrold H. Nungester — Decatur
Daniel R. Ramey, Jr. — Hartselle
Perry
Arthur F. Wilkerson — Marion
Pike
Chester K. Beck — Troy
Shelby
Leslie H. Hubbard — Wilton
Milton O. Park — Columbiana
St. Clair
Paul H. Parker — Margaret
Sumter
Horace C. Hunt — Livingston
Talladega
Eldred B. Teague — Talladega
Tallapoosa
Henry E. Askin — Alexander City
James M. Kent — East Tallassee
Lucian Newman — Dadeville
Tuscaloosa—(10)
Chas. E. Abbott, Jr. — Tuscaloosa
William D. Anderson — University
Ralph M. Clements — Tuscaloosa
Robert H. Cochrane, Jr. — Tuscaloosa
James P. Collier — Tuscaloosa
Luther Davis, Jr. — Tuscaloosa
John M. Forney — Tuscaloosa
Eugene H. Hamilton — University
Webster B. Majors — Tuscaloosa
J. Roscoe Shamblin — Tuscaloosa
Walker
Hobson Manasco — Carbon Hill
Merle E. Smith — Parrish
Washington
William A. Blake — Chatom
TOTAL — 246.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D.
State Health Officer in Charge

TULAREMIA

The Fish and Wildlife Service of the United States Department of the Interior called attention a short time ago to the rabbit. It was pointed out that increased civilian consumption of rabbit meat would release large quantities of meat of various kinds for the armed services, and equally important in the winning of the war, for export under the lend-lease arrangement to our fighting allies.

"The home use of this fine-grained, pearly white and nutritious meat will add variety to the family diet throughout the year," a booklet issued by that governmental agency declared. "Rabbits are being raised in every state in the Union. They may be kept in the city backyard as well as on the farm; in fact, wherever poultry raising is permitted."

The State Department of Health heartily endorses this means of adding to the food resources of the United States. It hopes that rabbits will soon become an important item in the dietary of the people of Alabama. At the same time, however, they should be warned against a serious health danger to which rabbit eaters are exposed unless they are careful. I refer to the danger of contracting tularemia, also known, properly enough, as "rabbit fever."

Those who follow the advice given by the Fish and Wildlife Service, as quoted in a newspaper article, are in no danger of contracting this disease, provided they keep in mind the fact that its plea is for the growing and eating of domestic rabbits—those which are raised in back yards, on vacant lots, and in other places where they can be prevented from running wild. For it is the wild rabbit, and not the domestic one, which brings the threat of tularemia. However, unless that danger is fully understood, many persons are likely to make no distinction between the domestic rabbit and the wild one in their patriotic desire to tap new sources of meat. That danger is especially great at this time, when the appeal of the rabbit hunt, whether to the sportsman's instinct or to the appetite, is especially strong.

Unfortunately, the danger of contracting tularemia is by no means limited to those who eat wild rabbit meat. The handling of wild rabbit carcasses is even more dangerous from this point of view.

Wild rabbits develop tularemia from small germs introduced into their bodies by the bite of a rabbit tick, wood tick, horsefly or deerfly. It is not necessary for many of them to enter, as they multiply rapidly and are soon carried by the blood to every part of the body, especially the spleen and liver. After reaching those organs they bring

about a decay of the tissue cells, and this results in the formation of many scars. These scars have the appearance of white, yellowish spots which vary in size from a needle point to the head of a pin. They can be clearly seen even by the untrained eye of the medical layman unaided by a microscope. There are also in many cases enlarged glands, or kernels, in the groin and under the rabbit's forelegs. Still another effect of an invasion by tularemia germs is seen in the rabbit's fur, which becomes considerably rougher than it was before. And finally a rabbit that has become a victim of this disease is almost certain to be much more sluggish and slower of movement than its undiseased brothers and sisters of the rabbit family. The swift movement usually associated with the jack-rabbit—the ability to run away from danger which made him a remarkable creature in the Uncle Remus stories—is completely lost, and even a child has little difficulty in overtaking and capturing him.

In handling the carcass, whether dead or alive, the unprotected human hand cannot avoid coming into close physical contact with it. Then the germs which have already been mentioned enter the body much as the germs of syphilis do. Like the syphilis germs, they apparently are incapable of piercing the skin, but, also like syphilis germs, they readily gain admittance through a sore or any other opening which need be no larger than a pin prick.

The human victim of tularemia does not immediately become conscious of his condition, as symptoms usually do not appear until the second, third or even fourth day after infection. When they do appear, both he and his physician may be puzzled and may attribute them to any one or more of several diseases, some serious, some unimportant. In many cases the disease is allowed to run for several days before it is considered necessary to obtain medical care. In others the victim thinks he has grippe and doses himself with the usual home remedies for it. In still others the victim decides he has typhoid fever.

In a typical case the victim develops a headache, accompanied by chilliness, vomiting, aching pains and fever. At first the temperature rise is only slight, hardly sufficient to be detected except with a clinical thermometer. Later, as the disease progresses, it becomes more marked. Usually, though not always, there is a sore at the site of infection, comparable to the chancre which develops at the site of infection with syphilis. As time goes on, this sore becomes an inflamed and painful ulcer. The lymph glands at the bend of the elbow and under the arms usually become considerably enlarged and also become tender and painful. These abscessed glands usually discharge pus over a period of several weeks.

Tularemia is a disease which calls for prompt and effective medical treatment. Anyone who has been exposed to the germ should be on the lookout for the symptoms which have been described, and, if any of them appear, he should lose no time in having a laboratory test made of his blood.

Medical science has not been successful in developing a satisfactory vaccine or serum for the prevention or treatment of tularemia. When it has been contracted, therefore, there is nothing to be done about it except to let it run its course, regardless of the inconvenience and loss of time that this may involve. The victim usually is acutely ill only about three weeks, but, unfortunately, he cannot then return to work. Recovery is a long-drawn-out process, and the passing of the acute phase of the disease is only a part of it. The victim may, and probably will, remain in a state of invalidism or semi-invalidism for many months, making anything like regular work all but impossible.

Since there is no specific for tularemia, the attending physician can do very little except to employ such measures as may be of assistance to the patient in conserving his strength. Naturally, there is considerable emphasis upon rest in bed. If the lymph glands become festered and appear to be about to discharge pus through the skin, surgery should be resorted to. This of course should be done only upon the advice of a physician. A mild antiseptic lotion may be applied to ulcers, but no form of surgery should be used upon them, as such a procedure would almost certainly make the condition more serious.

Fortunately, tularemia is much easier to prevent than it is to cure. In fact the observance of a few simple rules provides practically 100 per cent protection. The fact that it has become a serious public health problem is the result of ignorance regarding the disease on the part of many people and an

unwillingness on the part of others to go to the slight trouble and inconvenience of taking the necessary precautions. The following "do's" and "don'ts" are offered for the prevention of infection.

1. When you go rabbit-hunting, use discrimination. Just as it is not good sportsmanship to kill birds on the ground, so it is not very sporting to waste a shell upon a poor, sickly rabbit that you can outrun and capture alive. But, sportsmanship aside, killing and handling such a rabbit is a clear invitation to illness, because, as already pointed out, sluggishness of movement is one of the most dependable symptoms of tularemia.

2. Inasmuch as you probably will not wait long enough to find out whether a rabbit is fast or slow before shooting him, you cannot be certain that you have killed a healthy one. So, to be safe, carry rubber gloves with you when you go hunting and wear them when handling the carcasses of the rabbits you kill.

3. When handling live or dead rabbits, always keep your hands away from your face and eyes.

4. Burn or sterilize any article that has come into contact with rabbits or other game.

5. Disobey the first rule to the extent of killing and burying all rabbits which seem slow of movement or sickly, being careful of course to observe careful precautions while doing so. In that way, you will remove a reservoir of tularemia and perhaps protect someone else from the disease.

6. Be certain that the rabbit meat which you cook, serve or eat has been cooked thoroughly. Remember that like just as the parasites which cause trichinosis enter the human body in the meat of trichinosis-infested hogs, so the germs which produce tularemia pass from rodent to human in the meat of infected rabbits. Again, like the parasites of trichinosis, tularemia germs succumb readily to heat.

Fortunately, tularemia does not take high rank in either mortality or morbidity reports. No deaths were attributed to it in this state in 1940 and only four in 1939. No reports are available regarding 1941 mortality. Reported cases have ranged during the past decade from a high of 28 in 1932 to a low of six in 1933. During the ten-year period ending last year they averaged slightly less than 15 a year. Between Jan. 1, 1941 and Nov. 1, 1942 four cases each were reported from Bullock and Montgomery counties, two each from Autauga, Hale, Jefferson, Lauderdale and Pickens counties, and one each from Crenshaw, Lawrence, Lee, Talladega and Marengo counties.

There is no reason why any hunter should be deterred from the enjoyment of his favorite sport by the danger of contracting tularemia, especially at the present time, when rabbit meat is needed to swell the meat supplies available to the soldiers, sailors and civilians of the United Nations. This danger exists, nevertheless, and should be guarded against. We are fortunate that the protection is so complete and involves so little trouble or inconvenience. Remember it is patriotic to stay well.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

EIGHT-WEEK TREATMENT OF SYPHILIS

When Ehrlich and Hata discovered salvarsan they believed that one intramuscular dose of this drug would "cure" syphilis but in a very short time this concept was shown to be wrong. Over the years since 1910 the number of doses of arsenicals has been steadily increased until the present long treatment scheme of 1½ to 2 years was evolved. However, better results are obtained if the arsenical and heavy metals are given over this period of time in courses rather than just an arsenical each week for a year and one-half to two years. Continuous treatment produces much better results than when rest periods are given. But any scheme of treatment requiring 1½ to 2 years would produce obstacles to cure. The greatest obstacle would be the requirement of patients to continue treatment long after they appear to themselves to be well. This obstacle at times appears insurmountable since the majority of patients with syphilis today lapse before they have had the minimum of treatment.

In an attempt to shorten this long-term treatment scheme, the five-day intensive treatment was devised. However, this has not shown itself to be operative anywhere except in hospitals and even then the mortality rate and severe reaction rate are very much higher than under the long-term treat-

ment plan. If the patient dies as a result of treatment, it is true his syphilis has been cured but patients are not interested in being cured of any disease by death and neither should the physician. Stokes states: "The general indications at this stage of development of intensive procedure are that the death rate will be from one hundred to two hundred times that of the older, slower but when effectively applied, equally effective methods."

Somewhere between the long-term treatment and the short intensive treatment schemes should lie a plan of treatment that would be short enough to keep the patient interested in continuing treatment yet not too short or intensive to be dangerous. This compromise treatment has been brought forward by Eagle and Hogan as a result of their experimental studies. They have shown that if a total dose of 1200 to 1800 milligrams of mapharsen are given over a period of eight weeks or longer a "curative" effect results with an optimum of safety. It matters very little whether the injections of mapharsen are given once a week, twice a week or three times a week provided the total amount given is between 1200 to 1800 milligrams and provided the treatment is continuous; i. e., at least an injection once each week. However, since it has been shown that the majority of patients lapse treatment before even the minimum can be given under the long-term treatment scheme, the shorter the treatment period, the larger the number of individuals there will be who will complete the treatment. Hence, if the patients with early and early latent syphilis can be treated for 8 weeks by being given 3 injections of mapharsen a week, many of them will complete the treatment. Since the dose of mapharsen should be adjusted according to the body weight of the patient, it might be necessary to increase the time period of treatment in order to give the total amount of 1200 to 1800 milligrams. If the injections are given twice a week, the time period of treatment must be increased and if treatment is administered once a week the treatment period is increased to thirty weeks. Under this scheme, it has not been determined exactly what role, if any, bismuth plays. However, it is suggested that the in mid-period of 4 to 8 weeks, depending on whether the patient is being treated for eight or thirty weeks, a weekly injection of bismuth be given in addition to the mapharsen injection or injections. But the bismuth is given only once a week regardless of whether the patient is being given one, two or three doses of mapharsen.

In the first 1,100 patients treated under this plan, there was one death from nephritis but the nephritis was a complication of syphilis and not from treatment. One non-fatal case of encephalitis and a few cases of jaundice and arsenical dermatitis occurred. However, the majority of the reactions that occurred were not severe enough to discontinue treatment.

Although more time will be needed and many more patients will have to be treated before a final evaluation of the 8- to 30-week treatment scheme can be given, still this plan of therapy seems to offer great hope for the future control of "The Shadow on the Land."

W. H. Y. S.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

LEUKORRHEA IN PREGNANCY

One of the commonest, yet most neglected, complications of pregnancy encountered during prenatal examination is vaginal discharge. This may or may not be accompanied by symptoms resulting in complaint by the patient. Thus a speculum examination at each antepartum visit should be emphasized and appropriate treatment initiated where necessary, though manipulation must be gentle, especially before the fourth month. One must remember that in pregnancy and the puerperium, normal hyperemia results in hypersecretion.

Complaint: When present, may be of excessive leukorrhea, or irritation such as burning, itching, etc., as well as other symptoms of local inflammation.

Etiology: The more frequent causes are cervicitis, gonorrhea, trichomonas vaginalis and monilia, or any combination. This latter point is important, as frequently when one condition is found, the physician goes no further and hence secures incomplete results.

Diagnosis: A douche should not have been taken by the patient before examination and the vaginal speculum should be inserted

without lubrication. The cervix and vaginal vault are inspected for erosion and discoloration, and the discharge for color, consistency, formation and odor. Note if there is a bartholinitis, skenitis, urethritis, etc., also present.

Gonorrheal discharge is thick, tenacious, usually yellowish and often offensive in odor.

Trichomonas discharge is typically frothy. Care should be taken not to mistake this disease for gonorrhea. It is very prevalent in pregnancy, probably occurring as often as twenty per cent or more, and is twice as common in colored as in white women, but the larger part of these cases have no irritating symptoms.

Monilia discharge is white, flaky, curd-like, and tends to adhere to the vaginal mucous membrane.

Using cotton applicators, one smear should be made from the cervical discharge and two from the vaginal. (If laboratory facilities are available, cultures for gonorrhea may be taken.) The cervical and one vaginal smear are stained with Gram's stain for gonorrhea, and the other vaginal smear with Wright's stain for monilia—a yeast like fungus readily recognizable after a little practice.

A hanging-drop for trichomonas should be done as follows: Swab the cervical os and rinse in about 2 cc. of normal saline. With another swab, repeat for vaginal vault, rinsing in same saline. Place a drop of suspension on a glass slide, cover with cover-slip and examine under low power for the usually evident movements of the parasite. Then high power may be used for its morphology.

TREATMENT

Cervicitis: Electrocautery, usually the method of choice, is contraindicated in pregnancy. Temporarily bland, mucous-dissolving, lukewarm douches may give comfort, and gentle topical application of 5% silver nitrate done from time to time. At the six-weeks postpartum check-up, cautery will clear up most cases. One must always be on the lookout for carcinoma.

Gonorrhea: Sulphonamide therapy as in the non-pregnant woman. The baby will not be harmed.

Trichomonas Vaginalis: Of several efficacious therapeutic procedures, I prefer the following: Cleanse the vagina and cervix with green soap, dry thoroughly, and insufflate with about 5 gms. of 1% silver picrate powder. Several containers of the latter, together with an insufflator, are obtainable and inexpensive. After thirty-six to forty-eight hours, daily lukewarm vinegar douches, four tablespoonsful to two quarts of water, are taken. Repeat insufflation weekly until negative.

Monilia: The simplest treatment, after cleansing the vagina as above, is to paint the walls with 1% gentian violet in aqueous solution every other day. Results are usually rapid.

This intentionally concise synopsis, easily memorized, will help increase the sense of well-being as well as the health of many parturients.

W. A. C.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

MALARIA CONTROL IN WAR AREAS

During 1940, the expansion of the U. S. Army Air Corps made it necessary that new sites for airfields be developed. As these airfields are usually located in rural areas adjoining populated towns and cities, it was apparent that the control of malaria would be an important factor in protecting the health of military personnel stationed at such establishments.

The importance of assembling information relative to the malaria problem in a particular area proposed for development as a military installation and transmitting the findings to the proper authorities for their guidance in planning malaria control programs was realized. Consequently, the policy of making preliminary malaria surveys of areas contiguous to military and essential industrial establishments in the state was adopted. Such surveys and reports of findings, in general, included statistics regarding the prevalence of malaria, data on breeding areas of the malaria-transmitting mosquito and recommendations for satisfactory control of malaria. These surveys and reports formed the basis for the planning and placing in operation malaria control measures.

In all instances the responsibility for malaria control within the boundary of a military reservation rests with the Army or Navy as the case may be. However, funds allocated to the armed forces cannot be ex-

pended for construction activities on private property. It was necessary, therefore, that the financing of malaria control operations on private properties bordering military reservations be borne by some other agency. The WPA with its organization and latitude of operation of projects beneficial to the general public was the logical source of financial assistance. During 1941, malaria control drainage projects were approved and released by the WPA for the elimination of malaria mosquito-breeding areas within the one-mile zone of several military reservations in Alabama. The necessary data were prepared by personnel of the State Health Department, and technical direction and supervision of construction was assumed by this department. The U. S. Public Health Service assisted in this program by making available to the State Health Department engineering personnel who were assigned to the various areas as field engineers.

Early in 1942, the accelerated expansion of the armed forces created a great demand for additional military bases. It was soon realized that control of malaria mosquito production in areas contiguous to military and essential industrial establishments would involve a greater undertaking than in previous years. The financing of this program was beyond the budget of the State Health Department. The WPA, because of reduced quotas and assignment of workers to more essential projects, could participate only to a limited degree. To alleviate this situation funds were made available to the U. S. Public Health Service for conducting, in cooperation with the State Health Departments, a program to control production of the malaria mosquito in the areas previously defined. This program was given the title of Malaria Control in War Areas. The program of Malaria Control in War Areas is a joint undertaking by the U. S. Public Health Service and the State Health Departments. Operation of the projects is by the utilization by State Health Departments of the resources of the Public Health Service.

Larvicidal and drainage projects have been or are being operated in seven areas in Alabama. Engineers responsible for direct supervision of the operation of these projects are assigned to these areas. While larvicidal control measures were, of necessity, resorted to during the 1942 mosquito-breeding season, more permanent measures such as drainage and filling are now being employed where physically and economically practicable. Through the elimination of mosquito-breeding areas by drainage or filling, results which provide a greater degree of control are obtainable.

In addition to operations directed toward the control of mosquito production, entomologic inspections are carried out. These include the establishment and subsequent routine inspection of mosquito-catching stations as well as inspections for larvae of the mosquito. The results of entomologic inspections provide an index to the production of mosquitoes and are useful in evaluating the success of control activities. Areas in which drainage or larvicidal operations are not regarded necessary as well as those defined as control areas are included in the program of entomologic activities.

The program of Malaria Control in War Areas is coordinated with similar programs on military reservations, and personnel under the supervision of the State Health Department closely cooperate with military authorities in an effort to keep malaria rates low.

J. L. Crockett, Jr.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	Oct.	Nov.	Estimated Expectancy Nov.
Typhoid	16	5	22
Typhus	46	27	35
Malaria	833	157	435
Smallpox	0	0	0
Measles	11	10	41
Scarlet fever	185	139	152
Whooping cough	107	67	67
Diphtheria	153	93	161
Influenza	196	141	223
Mumps	25	26	53
Poliomyelitis	12	4	5
Encephalitis	1	2	2
Chickenpox	18	50	93
Tetanus	3	1	6
Tuberculosis	234	215	213
Pellagra	4	8	16
Meningitis	4	3	6
Pneumonia	238	255	224
Trachoma	0	0	0
Tularemia	0	1	0
Undulant fever	12	2	3
Dengue	1	0	0
Amebic dysentery	1	1	0
Cancer	144	164	0
Rabies—Human cases	0	0	0
Positive animal heads	13	12	0

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

Book Abstracts and Reviews

A Textbook of Gynecology. By Arthur Hale Curtis, M. D., Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of the Gynecological Service, Passavant Memorial Hospital, Chicago. Fourth edition, reset. Cloth. Price, $8.00. Pp. 723, with 401 illustrations. Philadelphia and London; W. B. Saunders Company, 1942.

The fourth edition of this standard textbook is a welcome addition to the library of the general practitioner and the specialist. The arrangement, as in previous editions, is complete and logical. It starts with the anatomy and physiology of the reproductive organs. It is then followed by chapters on the various infections, new growth and disturbances of function.

The chapter on gonorrhea has, of necessity, been markedly revised. This revision is necessary due to the advent of the sulfonamide drugs since the last edition. The chapter on tumors of the ovary is one of the most complete and well arranged chapters on the subject that is obtainable now. However, the section on endocrinology is rather extensive but still leaves the reader in some confusion. This is not an adverse comment, however, because most students of this subject admit that the knowledge concerning the properties and actions of the various hormones is still incomplete and some perhaps incorrect. Dr. Curtis has attempted to simplify the problem by omitting the numerous trade names. He also attempts to arrive at a rational use for each of the hormones. He quotes liberally from many of the authors and research workers, thus permitting the reader to draw his own conclusions.

For the general practitioner who does office gynecology, the textbook is valuable. It is complete not only with procedures and methods of diagnosis but also with methods of treatment and the expected results. The pathologic findings are also submitted.

Many of the common complaints seen and treated by the general practitioner are contained in the chapters 35 to 50. These include such common entities as urethral caruncle, pruritus, leukorrhea, vaginismus, etc. The use of x-ray and radium is treated very briefly and is almost in outline form. It is true that this phase belongs primarily in the hands of the radiologist but conclusions concerning the results should be included.

The pencil drawings and color sketches by Tom Jones are excellent specimens of both selection and reproduction.

The Textbook of Gynecology by Curtis remains a standard reference for every physician.

N. V. W.

Fundamentals of Psychiatry. By E. A. Strecker, M. D., Sc. D., F. A. C. P., Professor of Psychiatry and Chairman of the Department, Undergraduate School of Medicine, University of Pennsylvania; Psychiatrist to the Pennsylvania Hospital; Attending Psychiatrist, Psychopathic Division, Philadelphia General Hospital. Cloth. Price, $3.00. Pp. 201, with 15 illustrations. Philadelphia: J. B. Lippincott Company, 1942.

This is a timely little volume, no doubt written for and moderately well suited to the current needs of a highly revamped and hard-pressed profession whose members are being forced to enter medical fields hitherto relegated to the all-too-few psychiatrists. To such distraught physicians, a short text in a specialty not given to condensations is indeed welcome.

The material is here, no doubt. Minor omissions, such as the use of the hypertherm in the treatment of paresis can be excused in the need for brevity. The chapters on alcoholism and schizophrenia reveal the author as the able teacher and keen student he is. In these, as in other chapters, the value of the book as a short brush-up course would have been greatly enhanced had the author laid the emphasis more on description of major clinical variations, on succinctness of thought and neatness and simplicity of arrangement, and less on the voluminous quotations and undigested excerpts from some of his previously published papers and books, excellent though they are.

Of current interest, particularly to the newly inducted military physician, is the final chapter on the Psychiatry of the War. To such a man, the author's evident experience with the psychiatric casualty as evidenced in the final few pages will prove of considerable value. It is to be regretted that the author did not see fit to enlarge upon it beyond the few pages devoted to the subject.

P. S. B.

Mental Illness. A Guide for the Family. By Edith M. Stern with the Collaboration of Samuel W. Hamilton, M. D. Cloth. Price, $1.00. Pp. 134. The Commonwealth Fund, 1942.

It is unthinkable (sic) but if the psychiatrists and mental institutions of the nation were to engage a public relations counsel he could do no better than read this volume as a starter in his campaign to debunk the "Black Death" attitude toward mental disease. What has been done for tuberculosis, appendicitis and the venereal diseases by lay education can be done for the schizophrenic and the paretic, particularly through their families who constitute a mental hazard of no small proportion themselves.

The diagnosis of mental disease established, the author enters the confusion and desolation of mixed emotion and misinformation in the minds of the family with placid mien and gently lays the cool hand to the fevered brows. In chapters with such obvious labels as "A Healthy Attitude," "Why Hospitalize," and "The Hospital World," she erases the malevolent Svengali gaze from the psychiatrist and reveals him as a scientist and physician possessing at least a few of the humanities of compassion, sympathy and understanding.

The mental institutions emerge from under her pen not as the unemancipated Salpetriere of infamous memory but, at best, as well-equipped, well-staffed hospitals, specialized in the care of the mentally ill; and, at worst, ill-equipped and understaffed, suffering only from too much politics and too little budget.

With disarming reassurance, she guides the frantic family through the patient's stay in the hospital, discussing and rationalizing methods of treatment, urging cooperation with the authori-

ties and moderation with the patient. She dispels the thousand anxieties that beset the family as they sit at home, conjuring up the brutalities, indignities and torments supposedly heaped upon the unfortunate one. In the appendices that close the book, the author touches briefly on the legal ramifications of commitment in many states although the list is hardly exhaustive and finally concludes with an adequate glossary.

This is a volume that should grace the lists of required reading for every psychiatrist who in turn will no doubt suggest it to those for whom it is written.

P. S. B.

A. M. A. News

SAYS COLOR BLINDNESS IS CONGENITAL

"Color blindness is a congenital defect and in the true sense of the term is never acquired," The Journal of the American Medical Association for November 28 says in answer to an inquiry. "Extraneous conditions . . . have no influence on the color perception, which may vary from complete absence of color recognition to mere inability to differentiate various shades. There is no known correction for this condition despite the claims of some optometrists."

NAIL BITING IN GENERAL IS FORM OF IMMATURITY, EDUCATOR SAYS

HIS CONCLUSION IS BASED ON A TEN-YEAR STUDY OF THIS HABIT AS MANIFESTED BY PUPILS IN PUBLIC GRADE AND HIGH SCHOOLS

Nail biting in general is a form of immaturity, Albert L. Billig, Ed. D., Allentown, Pa., concludes from a ten year study of this habit as manifested by pupils in the public school which he reports in Hygeia, The Health Magazine for December. "As the nail biter 'grows up' and accepts the tenet that discipline . . . is necessary and desirable in many instances as part of an orderly life, his need for nail biting disappears," he explains.

Mr. Billig says that the pupils studied during the first few years of his observations were from the elementary grades and that the incidence of nail biting among them was approximately 40 per cent. Among sophomore students in high school, whom he studied subsequently, approximately 30 per cent were active nail biters.

"During the course of the investigation," Mr. Billig observes, "the following . . . became apparent: Approximately two thirds of a normal population exhibit this form of behavior at some time of life; by the fifteenth year half of these nail biters have desisted. At least some of the nail biters use this habit as a means of dominating persons, such as parents, whom they would otherwise be unable to control. . .

"An attempt was made to see if there was any difference between the amount of corporal punishment received by nail biters and that received by non-nailbiters. The results seemed to warrant the assumption that there is a slight excess in the amount received by nail biters. . . One of the findings was that the girls contributed slightly more nail biters than the boys for the grades four to six inclusive. . . Most of the nail biters admitted that they knew this habit was bad. Many of the pupils claimed that they learned it from another nail biter."

Results obtained from quantitative scores of a standardized questionnaire did not indicate that nail biting was a symptom of neurosis, Mr. Billig declares, but they did indicate that the nail biters had a slightly lower average intelligence quotient than the non-nail biters.

Among the more intelligent pupils, he says, one or two applications of a bitter substance to the finger tips was adequate to discourage nail biting, but, he adds, "If this treatment of negative conditioning should fail to produce definite results by the third application, it is advisable to discontinue it; otherwise more harm than good will be done. The habit will be made still more stable."

Among high school students who were nail biters, Mr. Billig declares that "It became evident from their own introspection and on observation while they were biting their nails that nail biting took place largely while they were in a state of excitement. Most of them believed they were powerless to do anything toward stopping the habit. Their stock answer was 'I am nervous.' The girls stated that the one form of entertainment which seemed most provocative of nail biting for them was motion pictures. At another time, among both boys and girls the two most provocative situations were said to be suspense and conflicting interests. The evidence gathered seems to indicate that in many cases this form of behavior can be traced to mothers, relatives or associates

who bite their nails and from whom the children learn the habit. This explanation on the part of the child may of course be a form of rationalization. . . The most desirable method for the amelioration of nail biting among high school sophomores was found to be a program of helping the pupils to develop an understanding of why they indulged in this form of behavior. . ."

EXPLAINS MEASURES TAKEN TO SAFEGUARD NATION'S LIMITED STOCKS OF QUININE

Measures undertaken to safeguard the nation's limited stocks of quinine are summarized in The Journal of the American Medical Association for November 28 by Lewis H. Weed, M. D., Washington, D. C., chairman of the Division of Medical Sciences of the National Research Council. He points out that troops cannot operate successfully in malarial areas "without an effective antimalarial drug. Malaria is present throughout most of the tropical and subtropical world. The extent of operations in these regions is steadily increasing and it is conceivable that they may grow to tremendous proportions within a short time. Ninety per cent of the world's customary sources of quinine was cut off when the Japanese invaded Java and the Philippines. . ."

He explains that a program for conserving the nation's limited stocks of quinine has been worked out by the joint efforts of the War Production Board and the National Research Council. In addition to freezing present stocks and restricting the use of quinine to the treatment of malaria persuasive efforts have been instituted by the War Production Board to bring in all unopened packages of quinine, and the machinery is now being set up for bringing in opened packages.

The Subcommittee on Tropical Diseases and the Committee on Medicine of the National Research Council have given an opinion that totaquine should prove to be as effective as quinine sulfate in the treatment of malaria by mouth. Totaquine is an antimalarial drug containing less quinine than the pure quinine drug ordinarily used to treat malaria and other conditions.

The program also has involved stimulating increased production of atabrine, a synthetic antimalarial drug. It is the consensus of the Subcommittee on Tropical Diseases of the National Research Council "that until we have had more experience with the use of atabrine it should be used only under the guidance of a physician or public health officer," Dr. Weed says.

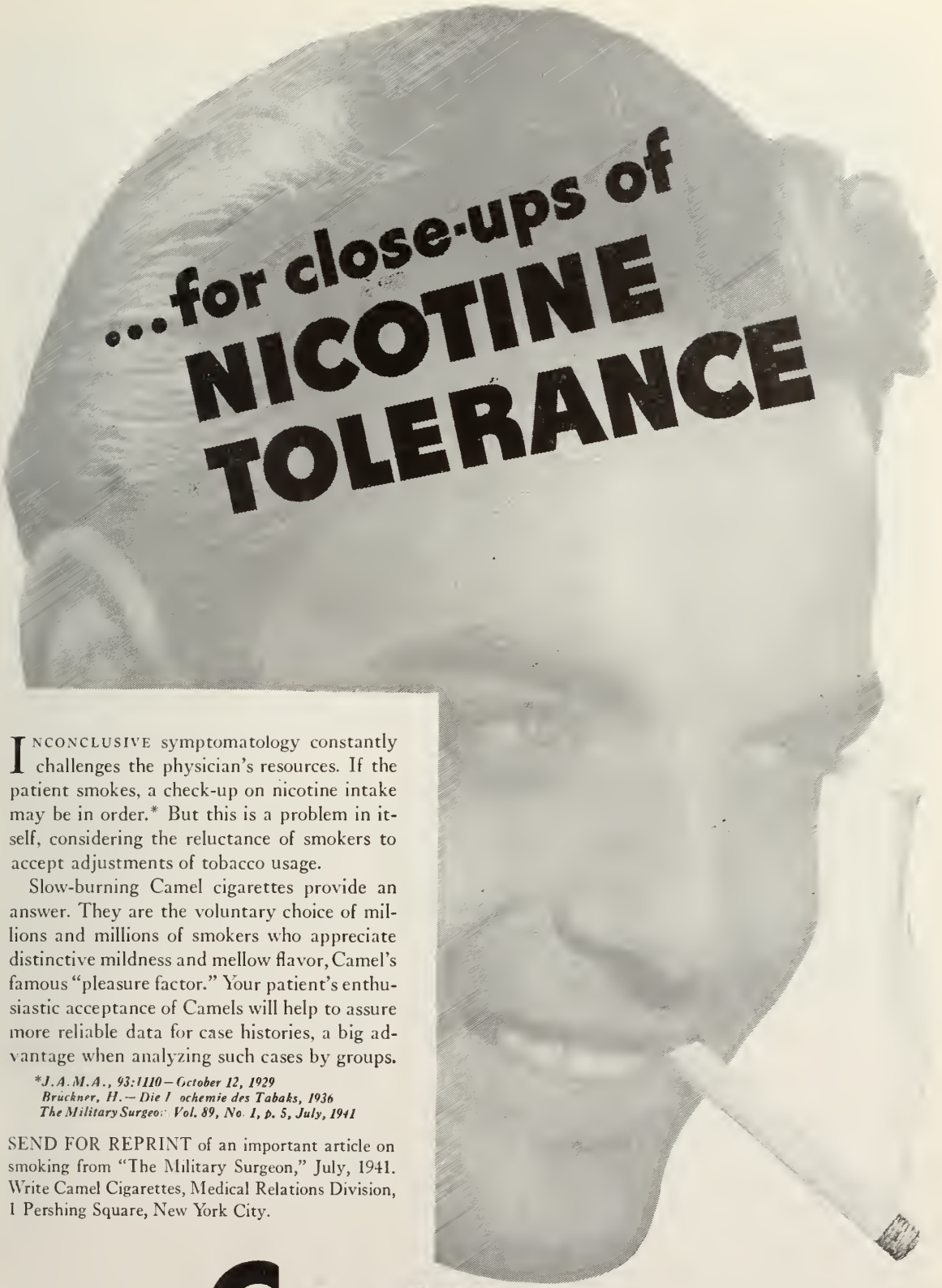
"It is anticipated on the basis of recent investigations by the Board of Economic Warfare that the barks from South America, of low quinine content but sufficiently rich in total crystallizable alkaloids . . . to make totaquine of U. S. P. standards will be found in sufficient quantity to enable totaquine to replace civilian quinine requirements. The amount of this bark which is available has been an unknown factor, because its low quinine content has not made it previously marketable.

"If every physician in civilian practice and every public health officer will follow the recommendations of the Subcommittee on Tropical Diseases regarding the use of atabrine and will use totaquine in place of quinine whenever totaquine is available, an important and material conservation in our limited stocks of quinine will be accomplished."

SEEK PHYSICIAN VOLUNTEERS FOR SERVICE IN INDUSTRY AND OVERPOPULATED AREAS

A request by the directing board of the Procurement and Assignment Service for physicians over the age of 45 to volunteer for service either in industry or in overpopulated areas is published in The Journal of the American Medical Association for December 26. The request follows:

"The directing board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians wishes immediately the name of any doctor who is willing to be dislocated for service, either in industry or in overpopulated areas, and who has not been declared essential to his present locality. This is necessary if the medical profession is to be able to meet these needs adequately and promptly. Any physician over the age of 45 who wishes to participate in the war effort in this way should send in his name immediately to the state chairman for the Procurement and Assignment Service in his state."



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*J.A.M.A., 93:1110—October 12, 1929
Brückner, H.—Die Biochemie des Tabaks, 1936
The Military Surgeon, Vol. 89, No. 1, p. 5, July, 1941

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Fellow of the American Psychiatric Association

Miscellany

TELLS HOW A SURGEON REMOVED LIVE SHELL FROM MAN'S THIGH

THE REGULAR LONDON, ENGLAND, CORRESPONDENT OF A. M. A. JOURNAL DESCRIBES HAZARDOUS OPERATION ON AIR RAID VICTIM

The courage of a surgeon who removed a live shell from the thigh of a man during a recent air raid on London is described by the regular London correspondent of The Journal of the American Medical Association in the December 12 issue. The correspondent reports that:

"In a recent speech Dr. Donald Hall, chairman of the Royal County Hospital, told of a man brought to the hospital with a thigh injured during a recent air raid. Under the wound of entry a sharp pointed object could be felt. At the time of injury the enemy had dropped all their bombs and were headed home with their guns blazing. It was decided that the object therefore was not a bomb fragment and was thought possibly to be part of a fractured femur. X-ray examination, however, revealed that an unexploded cannon shell was embedded in the tissues. The bomb disposal unit was called and the

officer identified the shell from the roentgenogram as of the armor piercing variety which explodes on impact. What was to be done? If the shell exploded, at best the man would lose his leg, which would be shattered; very likely he would lose his life. If the shell exploded during the operation for its extraction, the surgeon and every one in the operating room ran great risks, especially for loss of eyesight. The removal was necessary, danger or no danger. The patient was left in blissful ignorance and the surgeon, his assistant, the anesthetist and the nurses got to work. Swiftly and successfully the surgeon performed the most delicate and dangerous operation of his career and removed the shell. Within half an hour of leaving the ward the patient was back in bed. The name of the surgeon was not revealed. During the operation, according to this report, an assistant surgeon appeared at the door of the operating room to inquire what were his prospects for promotion to the senior staff!"

WAR CASUALTIES AT PEARL HARBOR

The experiences gained from the handling of the wounded at Pearl Harbor on Dec. 7, 1941 will undoubtedly exert a definite influence on the further progress of treatment of war casualties, The Journal of the American Medical Association for December 12 declares in an editorial summarizing a symposium in the September-October issue of the Hawaii Medical Journal on the disposition of the wounded there on "Jap Sunday."

Regarding the symposium, The Journal says that "The authors and discussers were chosen from among those present and active on December 7, so that only first hand experiences are reported."

Lieut. Col. A. W. Spittler, in his discussion of the treatment of war wounds, stressed two principles, namely the thorough debridement or removal of all foreign matter and tissue immediately surrounding a wound, including all dead tissue in the vicinity, and subsequent open treatment. The Journal reports that it was his impression that the local use of a sulfonamide powder combined with administration of the drug by mouth, injection into a vein or beneath the skin had much to do with the reduction in the incidence of infection in wounds.

"Gas gangrene," The Journal says, "was combated by secondary debridement, a sulfonamide locally and generally, and x-ray irradiation. Commander Downes thought that the role of the sulfonamides in securing the amazing results was probably exaggerated. Many other favorable factors existed. The patients were a selected group of healthy young men in excellent condition and exceedingly well nourished. This being Sunday morning, they were clean, rested and not exhausted. In addition, the cases were treated by extremely competent and well trained surgeons. . . .

"In the treatment of shock, as outlined by Lieut. Col. C. T. Young, modern concepts of shock and shock therapy were successfully applied. These consisted of early treatment, even in the absence of clinical signs of shock. . . . The highest mortality rate came from abdominal wounds. However, about 50 per cent of these patients for whom operation was possible survived. The improvement in the rate of survival, as compared to the injuries to the gastrointestinal tract in the first world war, was probably due to the liberal employment of the sulfonamides intraperitoneally and orally. . . . Dr. J. E. Strode, in the discussion of chest wounds, emphasized the importance of the first aid treatment of the sucking wounds of the chest. The hole is to be plugged immediately by almost any method at hand. . . . Dr. R. B. Cloward outlined a rather conservative therapy for head injuries. . . . Morphine or other narcotics should never be given to a patient with a head injury. . . ."

Among the points regarding fractures contained in The Journal summary of the symposium is the statement by Lieut. J. D. Macpherson that because of the frequent necessity of transferring patients to the mainland open operation was favored in correcting the fracture.

"Lieut. Com. P. C. Spangler," The Journal continues, "points out that in burns it is important to treat the patient first for pain, anxiety and beginning shock. In the treatment of lesions, attempt is made to convert a soiled wound into a clean, aseptic wound. The burned area is washed with soap and water, debrided and sprayed with freshly prepared 10 per cent tannic acid solution, followed ten or fifteen minutes later by swabbings with 10 per cent silver nitrate so-

lution. No dressings were applied. . . For hands, feet, face and genitals 1 per cent sulfanilamide and petrolatum was used. Spangler expresses the opinion that this is perhaps the most satisfactory way of handling a large group of burns. Lieut. Com. Joseph Palma described the syndrome of blast injury of the lungs and of the abdomen. . . He advises that in all war casualties, regardless of the type of injury produced, if there has been exposure to the detonation of high explosives, the integrity of the chest should be ascertained by x-ray examination, because general anesthesia is contraindicated when there is blast injury of the lungs. Oxygen is life saving and should be administered continuously. . .

"It is gratifying, indeed, to learn that the Army, the Navy and the civilian medical personnel proved equal to the great emergency and delivered a service of the most advanced type. The symposium will undoubtedly exert a definite influence on the further progress of therapy of war casualties."

COMPARES NUTRITIONAL VALUE OF OLEOMARGARINE AND BUTTER

WRITER IN HYGEIA POINTS TO THE IMPORTANCE OF THE QUESTION IN VIEW OF CONDITIONS BEING BROUGHT ABOUT BY THE WAR

"There is nothing at present to indicate that the use of fortified oleomargarine in place of butter would lead to nutritional difficulties," Madeline Day, Wilmette, Ill., declares in Hygeia, The Health Magazine for January. "Butter," she continues, "may contain certain nutritional factors not yet fully identified. The public has a right to insist that butter and olemargarine continue to be marked so that each is easily distinguishable. For the rest it is a matter of taste and purse. Certainly oleomargarine can be purchased less expensively than can butter, and it takes a keener taste than most of us possess to distinguish between them by taste alone."

The question of the comparative nutritional value of oleomargarine and butter is particularly important today because of the war, she says, pointing out that "when every 10 cents saved buys a war stamp, when every man inducted into the service lowers the buying power of some family, when every camp established or every ship loaded with lease-lend supplies draws from our national supply of butter, women are beginning to ask seriously what would be the effect on the family health if oleomargarine was substituted for butter. . . For that is something America cannot afford—to substitute a food which might be detrimental to the health of the American people. . .

"Briefly, butter is a food product made exclusively from milk or cream or both and containing not less than 80 per cent, by weight, of milk fat. It may or may not contain common salt or coloring. Oleomargarine is a food product made from either animal or vegetable fats or a combination of the two. These fats are mixed with milk, cream, skim milk or dried milk and water. The finished product must contain not less than 80 per cent fat. Since the fat content of both foods is controlled at not less than 80 per cent, such difference as there may be in the two products can be attributed to the type of fat used rather than to the fat content. . ."

The type of fat used in making oleomargarine has changed during the past few years, Mrs. Day points out. It will probably continue to change—depending on the availability of different oils. Nearly ten times as much cottonseed oil is used today as was used ten years ago, and the use of soybean oil has increased until it now furnishes about one-third of the total oils used. Soybean oil is reported to be more easily absorbed than butter fat and is regarded as superior for this reason in infant nutrition, she says.

Since the manufacture of oleomargarine was first legalized (1886) until the present time, the product has been consistently taxed. Thus the federal government has made it possible for the consumer to distinguish between butter and oleomargarine.

"In earlier days the importance of this distinction was not clear," the author states, "but by 1913 it was evident that while butter was a rich source of vitamin A, vegetable oils and many of the animal fats used in making oleomargarine were devoid of this vitamin. Thus to substitute oleomargarine for butter at that time was to decrease the vitamin A intake. However, it is now possible to fortify oleomargarine so that its vitamin A content may equal that of high grade butter. . . There is no significant difference in the digestibility of butter and oleomargarine. These foods are also a source of essential fatty acids."

THE JOURNAL
of
THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA
Published Under the Auspices of the Board of Censors
Vol. 12, No. 8 Montgomery, Alabama February 1943

PEPTIC ULCER*

By
M. S. DAVIE, M. D.
Dothan, Alabama

This subject is given because of the increased incidence of peptic ulcer under the stress and strain of present conditions and, also, because of the psychogenetic factor which has become a part of all medical and surgical problems more than ever before.

HISTORY

The term peptic ulcer has ancient and accepted approval in discussing benign lesions of the stomach and duodenum, though accumulating information has taught us that more than one factor enters into their production.

Marcellus Donatus in 1586 gave us our first reported case of benign peptic ulceration, which was a stomach lesion confirmed by autopsy. Since then the literature has become extensive and it is now thought that 10 to 12 per cent of our population suffers at some time from chronic duodenal or gastric ulcer. Ulceration of the duodenum was not recognized for many years after gastric ulcer entered the record, but now it is found clinically twelve times as often.

Chronic peptic ulcer is more frequently found clinically than the acute condition, as it is some complication which usually brings the diagnosis of the acute form.

The estimates of total peptic ulcer incidence in this country are from 330,000 cases to 11 million, and some estimate that 15 per cent of the male population either has or has had peptic ulcer.

ETIOLOGY

The pathogenesis of peptic ulcer involves some factors yet to be solved, particularly the psychogenetic and congenital angles. The recurrence of gastric ulcer following excision should be kept in mind.

Experimentation develops that chronic ulcer may be established in over 90 per cent of the cases where alkalinizing material was removed from the area on which acid gastric chyme impinged. This factor is further emphasized by the production of chronic peptic ulcer by the introduction of dilute hydrochloric acid into the stomach.

Morlock, of the Mayo Clinic, has given five causative factors for the production of peptic ulcer, including acid erosion, the other four being infection, trauma, neurogenesis and nutrition. Direct physical violence has been known to produce peptic ulcer, and ulcer flareups have followed the intake of coarse, high-residue foods. Malnutrition and avitaminosis are definite productive factors in many cases.

SYMPTOMS

Pain may be due to spasm as well as increased acid chyme; also to inflammatory extension to the peritoneal surface adjacent to the lesion. The outstanding symptom in duodenal ulcer is pain. These attacks may last only a few days at first, and then disappear for an indefinite period. Later the pain incidence is more frequent, severe, of longer duration and shorter interval. Attacks are influenced by changes in weather and season. The pain is influenced by the size of the meal and the digestibility of the food. It may follow a small meal in less than an hour, or be delayed several hours following a large meal. The type of pain is significant. It is not like colic and seldom requires morphine, but is spoken of as burning, gnawing, aching, boring and continuous. Pain in the midline is generally lower than in gastric ulcer, and when the pancreas is invaded by contact extension it may be on the right and

*Read before the Association in annual session, Montgomery, April 22, 1942.

go through to the back. Appetite is usually good and food relief prevents reducing the intake. Vomiting is infrequent, and may be intentional for pain relief.

Hochrein and Schleicher believe peptic ulcer and stenocardia have an analogous syndrome, and the hereditary constitutional predisposition is apparent—nervous hyperirritability, vegetative disturbances (constipation, diarrhea, tympanites and diaphoresis) and vasomotor disturbances (headaches, insomnia and cold extremities). At times there may be hypochondria. The vagus tonus predominates—bradycardia, hypotension and respiratory arrhythmia.

The average clinical picture of peptic ulcer is clearly diagnostic, though the absence of typical symptoms does not rule out the disease. The picture is postprandial pain, usually epigastric, relieved by food and soda, of daily recurrence for one or more weeks, and definite subsidence of one or more months. A syndrome which is radically at variance with this setup should carry a question mark and have further study to settle the possibility of malignancy. Of diagnostic significance are the remission periods and daily pain. Functional gastro-intestinal disturbance is seldom nocturnal. The night pain is definite in recurrence time and is relieved by food or soda. Exclusive diagnostic reliance should not be given to this picture.

There may be no epigastric tenderness. Hematemesis and melena are of diagnostic significance. Occult blood in the stools on a meat free diet is suggestive of peptic ulcer, and, likewise, blood in the gastric analysis is important. Hyperacidity is confirmatory. The ultimate decision is a thorough fluoroscopic examination by a capable roentgenologist.

DIAGNOSIS

McMullen's study of 4,400 consecutive gastro-intestinal roentgen examinations revealed 883 peptic ulcerations, 78 per cent duodenal, and 22 per cent gastric. No decade was exempt, but in women the duodenal peak was the fourth decade and the gastric peak was the fifth decade. The same peaks for men were ten years later, or the fifth and sixth decades.

X-ray signs of duodenal ulcer are deformity and crater. Deformity may be past or present pathology, but the crater is evidence of activity. Though absence of crater in the film does not rule it out, as the crater may be filled with food, debris, blood or granulation tissue, or the neck of the crater may be occluded by edema. Fluoroscopic examinations should be combined with compression films made under fluoroscopic control. Templeton and his associates demonstrated 65 per cent active duodenal ulcer in 850 cases.

The typical ulcer man is usually between 20 and 40 years of age. By morphologic and psychiatric examination he is classified as "tall, slender, angular jaw, sharp nose, deep lines from nose to corner of mouth, tense, watchful, unsmiling. Active, energetic, restless and capable of long sustained effort. Psychically dynamic, intense and independent." Thus peptic ulcer is a psychosomatic disorder and attention to the psychiatric phase should be given. In 80 to 90 per cent of all ulcer cases it is thought that chronic emotional disturbances play a leading causative role, with hereditary predisposition an important factor as well. Cushing showed that peptic ulcer sometimes followed certain brain operations, and drug stimulation of the vagi has been known to produce acute ulcer. Mittlemann and Wolff demonstrated a connection between the state of mind and the stomach's secretion of gastric juice. Fears, rages and anxieties produced hyperchlorhydria. Emotional stress may produce cardiospasm.

The interval between cause and effect, or between etiology and syndrome is indeterminable. It may be a few years or a few hours. The subjective symptoms are not always in accord with the objective findings.

MEDICAL TREATMENT

Adequate and sustained medical treatment of peptic ulcer requires close and unremittent supervision of and thorough cooperation by the patient. Haphazard treatment will not succeed. Ten years ago Moynihan observed that the failure of medical treatment for peptic ulcer was due to inefficiency or insufficiency.

Some individualization of the Sippy plan is most frequently followed. Effective neutralization may be obtained with eight doses or less in twenty-four hours of a combination of such absorbable alkalis as sodium bicarbonate, calcium carbonate and magnesium oxide. Preferred consideration

should be given to the nonabsorbable alkalis because of the possibility of an alkalosis. Calcium carbonate, bismuth subnitrate, tribasic calcium and magnesium phosphates in some combination should be used. Aluminum hydroxide is an efficient amphoteric absorbent which is not irritating to the gastro-intestinal or genito-urinary tracts. This product may be given by drip. A satisfactory nonabsorbable antacid absorbent is magnesium trisilicate, and this has been found effective for maintaining comfortable achlorhydria during sleep.

The neurogenic element in these cases must be remembered and an effort made to establish some philosophy of life most conducive to individual mental tranquility. Worry may be the decisive factor in producing and reproducing peptic ulcer.

The chronic duodenal ulcer patient generally has hyperchlorhydria, and one of the principles of treatment must be the modification of this condition. This may be done by the use of alkalis or acid absorbents, increased fluid intake or fractional feeding.

Reactivation of duodenal ulcer has followed the administration of typhoid, paratyphoid and streptococcal vaccines. It follows that the removal of foci should be thorough, including teeth, tonsils, tubes and prostate, especially.

Peptic ulcer is primarily a medical problem, and not to be surgically considered except for complications and failure to respond to medical treatment. Patients should not be made stomach conscious, but more alert consideration should be given to the peptic ulcer diagnosis and the proper regimen instituted in the beginning. The natural tendency is towards spontaneous healing and the condition is much more responsive to treatment in the early stages.

The use of cream is an individual matter, with variable tolerance. Five grains of sodium citrate to a glass of milk adds an antacid factor by chemical combination and delays rennin clotting, promoting digestion. The use of gastric mucin is thought to be of questionable value, and histidine injections are mentioned with disapproval.

The possibility of malignancy should not be disregarded in gastric ulcer, and the patient should be given a long-distance program. The treatment is essentially that of duodenal ulcer. Objective symptoms are occult bleeding and the presence of the niche; and, subjectively, pain and tenderness. Continual presence of blood in feces or gastric contents is strongly suggestive of a malignancy; likewise, the persistence of signs and symptoms while the patient is under active treatment.

Prevention of recurrence is a permanent problem, requiring persistent good behavior of every kind. Alcohol, tobacco, imprudence in diet, and mental and physical fatigue are the things most productive of recurrence.

The use of condiments, hot and cold drinks and all alcoholics should be avoided. The patient should eat slowly, chew thoroughly, and not use foods which cannot be reduced to proper consistency by chewing. Salads, raw apples, cabbage, nuts, raw vegetables, cheese, tough meats and new bread are on the prescribed list. Unimportant details in the management of peptic ulcer vary in different clinics, but the basic treatment is essentially the same. Broadly, this includes rest, sedatives, and avoidance of alcohol and tobacco. The type and degree of rest should be individualized and determined by the temperament of the patient, economic status, and severity and duration of the symptoms.

Continuous pain, constant vomiting, and unsatisfactory response to previous treatment make bedrest necessary. Otherwise, ambulatory treatment may be instituted, though the principle of rest should always be considered and made a definite part of the treatment in some degree, when at all practicable. Week-ends can usually be spent in bed, and at other times each meal should be preceded and followed by ten minutes rest.

Because of the psychogenetic factor in all cases of peptic ulcer, mental rest is of prime importance, though usually difficult to obtain. The emotional complex of the patient should be carefully analyzed and the environmental factors ascertained and studied. A disciplined psychologic regimen is a high achievement and should always be sought.

Some buffer for the nervous system is routine, but these drugs should be used cautiously and never in large amounts. Phenobarbital and sodium bromide should be given preference, ½ grain of the former and 5 grains of the latter, three times daily. The daily dose should never exceed 5 grains of phenobarbital or 60 grains of sodium bromide. Should it not be practical to sedate these patients during the day, phenobarbital

sodium, grs. 1½, may be given at bedtime. Elixirs containing alcohol should be avoided.

Diet

The daily caloric intake should be 2500 or more, properly balanced as to carbohydrates, fats and proteins; and, also, as to vitamin maintenance. This can be done by listing the food items from which selection is to be made in the first, second and succeeding months, and giving the same to the patient. He should also be given a list of prohibited things.

Because of the insufficiency of the vitamin B complex in the available commercialized food products, it is well to give two or more tablets of brewers' yeast three times daily. Occasionally there will be found a dislike or an intolerance for tomato or orange juice, and in these cases there may be given 100 mgs. of ascorbic acid daily.

It was Sippy's idea to neutralize the gastric juice by the frequent administration of food and alkali, but the "acid rebound" alkalosis factors of these antacids should be remembered. Particular reference is had to sodium bicarbonate, calcium carbonate and magnesium carbonate or oxide. Also, the magnesium preparations may sometimes produce diarrhea in routine dosage. The ambulatory patient is frequently given a mixture of milk, cream and eggs for his thermos bottle and told to take five ounces of this combination six times daily—formula, 12 ounces cream, 2 raw eggs and whole milk to make one quart. This is to be taken one and two and one-half hours after each meal. Regularity is important.

The tendency of late is to get away from the antacids, but many are still using calcium carbonate, magnesium carbonate and bismuth subcarbonate in the proportion of one part each of the calcium and magnesium to two parts of the bismuth and given one teaspoonful four to six times daily one hour after food. An alkalosis may result from the long-continued use of these relatively insoluble ingredients. It has been found that aluminum hydroxide may interfere with phosphate absorption, and that aluminum phosphate is preferable, particularly should there be any diarrhea. This antacid or amphoteric program should be individualized for atypical pain incidence. Should pain occur thirty minutes after each meal the medication should be changed accordingly, and if symptoms occur regularly at night, the patient should be awakened about one hour before this time and given both medicine and food. Laxatives are given as required, though the effect of mineral oil on the fat-soluble vitamins should be remembered.

If some clinical improvement is not noticed within a week, the patient should be reexamined and the program rearranged; such as rest in bed, more frequent feedings and change of medication. Also the patient should be routinely rechecked every three or four months, and taught to study his stools all along for melena. All patients should be given a program of future ulcer avoidance after symptomatic recovery is established. Any program should be so individualized as to secure greatest relief from mental, physical and gastro-intestinal irritation.

For spasm of the gastroduodenal segment because of imbalance of the autonomic nervous system, various antispasmodics are sometimes used, atropine or tincture of belladonna being the choice. They are given preferably after meals, either singly or in combination with a bromide. Should side reactions occur on moderate dosage, some synthetic derivative is sometimes effective. Bedrest patients may be given one of the drips. These have proven effective for immediate amelioration of troublesome symptoms in difficult personalities. The administration of gastric mucin has been largely discarded.

SUMMARY OF MEDICAL TREATMENT

1. Partial or complete rest.
2. Selected diet frequently administered.
3. Interval feedings where necessary.
4. Antacids as often as necessary.
5. Drugs for gastro-intestinal spasm when indicated.

Wangensteen states that inability to control gastric acidity is the chief cause of failure in the medical management of patients with ulcer, and that night secretion contributes materially to the failure to control gastric acidity by diet. He prefers the Hofmeister technique for a three-fourths resection of the stomach, including the pylorus and antrum, with a closed-method gastrojejunal anastomosis. The thought occurs that night therapy and diet should first be thoroughly tried.

Aluminum hydroxide gel has been shown to be an effective gastric antacid and neutralizes hydrochloric acid of the stomach by chemical reaction. It does not stimulate a compensatory increase in free gastric acidity and does not produce systemic alkalinization. It has a tendency to increase mucin secretion and the ability to precipitate pepsin in vitro. It should be given orally 1 to 2 drachms in one-half glass of water every two to four hours, or one-half to one hour after meals. It may be given by gastric drip.

The treatment of peptic ulcer is primarily medical, as the surgical aspects of the disease are mainly those of its complications.

Medical and surgical therapy is more and more giving place to mental therapy. A patient who is nervous, temperamental and given to worrying constitutes a doubtful surgical prospect. Emotional stress and strain may reproduce the ulcer. The impact of war may definitely increase ulcer incidence.

SURGICAL TREATMENT

One should have a well thought out routine procedure for studying abdominal pain and not be stampeded into action by the insistence of the patient or others that something be done immediately to relieve it before a working diagnosis can be achieved.

It may be stated that the five surgical imperatives are ulcer perforation, six-hour retention of the barium test meal because of cicatricial pyloric stenosis, hemorrhage past age forty, the possibility of malignancy in long standing gastric ulcer, and, rarely, severe persistent pain. An acute perforation gives an unmistakable picture of a surgical abdomen and demands immediate operation. Time is the most important factor. Long continued low grade hemorrhage with melena may require surgery. Hemorrhage after the age of forty frequently becomes a matter of emergency operation. Malignancy is rare in duodenal ulcer, but ulcers of the greater curvature of the stomach are usually malignant, and those of the lesser curvature may become so.

The postoperative care of the peptic ulcer patient may be that of the second or third-stage ulcer diet, and this for several weeks. Avoid meats, fried foods, highly seasoned foods, and uncooked foods. The patient may eat finely cooked vegetables, lamb, chicken, baked fish, cooked fruit, eggs, butter, rice, custard, jello, toast and crackers. A glass of milk, malted milk or milk and limewater may be given midmorning, midafternoon and at bedtime. After each meal there should be given some combination of antacids.

GALLBLADDER DISEASE IN CHILDREN*

SHORT REVIEW OF LITERATURE WITH CASE REPORT

By

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Gallbladder disease in children, although not a very common condition, is probably not as rare as it has been thought to be. The infrequent and brief consideration of it in textbooks on pediatrics would indicate it to be almost unheard of, but studies carried on in recent years by a number of physicians have indicated it to be common enough to be thought of when diagnosing the cause of abdominal symptoms in children.

A. H. Potter,[1] in 1928, reported four of his own cases of gallbladder disease occurring in children. At that time he reviewed 224 cases gathered from the literature, apparently all that had been reported. This work was the stimulus for more careful watching for gallbladder disease in children. As a result, he was able in 1938,[2] ten years later, to collect from the literature 432 cases of gallbladder disease in children, ten of which were his own. It is the opinion of some that many of the stomach aches of children are due to unrecognized gallbladder disease.

Bearse[3] states that 16.5 to 21 per cent of patients operated on for gallbladder disease are under 30 years of age. In a series of 300 of his own cases operated upon, 63 were under 30. Only five of the 63, however, were under 20 years of age when operated upon, and only one of the five was under nine. This was a boy seven years old who had an attack of acute non-calculous cholecystitis.

*Read before a meeting of the staff of St. Vincent's Hospital, Birmingham, April 8, 1942.

1. Potter, A. H.: Gallbladder Disease In Young Subjects, Surg., Gynec. and Obst. 46: 795-808 (June) 1928.

2. Potter, A. H.: Biliary Disease In Young Subjects, Surg., Gynec. and Obst. 66: 604-610 (March) 1938.

3. Bearse, C.: Gallbladder Disease In Patients Under Thirty Years of Age, J. A. M. A. 112: 1923-25 (May 13) 1939.

The incidence of gallbladder disease in the two sexes varies from 2.05 female to one male in one series to 5.5 female to one male in another. In Potter's series of 432 cases in children, the incidence is considerably less than two to one. This is as would be expected if the metabolic changes incident to pregnancy are at times etiologic factors in gallbladder disease in the female.

Infectious diseases have frequently been the etiology of gallbladder disease. In Bearse's group of 63 patients operated on under thirty years of age, 55.5 per cent had had one or more infectious diseases. Twenty-eight cases had had measles, eight had had scarlet fever, and four typhoid fever. Seidler and Brakeley[4] mention influenza, Lamblia infestation and appendicitis, along with focal infections in general, as etiologic factors in cholecystic disease. Schottmueller records 5 cases of cholecystitis following scarlet fever. He associates hepatitis with cholecystitis in his cases and believes the toxin of hemolytic streptococcus and not the organism itself is the cause of the complication. Pneumonia and abdominal trauma, as well as congenital lesions, have been considered as etiologic factors.

The diagnosis of the disease is of course more difficult in the child than in the adult. This accounts for the frequency of diagnoses being made at autopsy and at operations for other conditions. Potter in his report in 1938 suggests that the mistake in diagnosis is made more often than it should be because we do not suspect gallbladder disease in the child. He cites the fact that the percentage of diagnoses made at operation and at autopsy are much less in the series from 1928 to 1938 than in the series before 1928, and attributes this to greater alertness on the part of the physician in looking for the condition in children.

The symptoms are about the same as in the adult when the child is old enough to describe them. Young children may complain only of abdominal pain. Zeilditch *et al.*[5] reported in 1935 a thorough clinical study of 34 cases of mild cholecystitis in children and stated that in the majority abdominal tenderness was found in the subcostal region, and was more accurately localized either midway between the costal margin and umbilicus or at the very edge of the ribs between the right mammillary line and the xiphoid process. In about one-half of their cases the liver was found enlarged. Localized pain at the umbilicus is given as a predominant symptom in a large number of cases. Seidler and Brakeley[4] state that cholecystography is usually well tolerated by children and should be regularly employed in all obscure abdominal conditions.

Since the recorded experience of surgeons in treating gallbladder disease in children is small, a good many questions confront the surgeon when he is assuming responsibility for the care of these cases. Should the treatment of gallbladder disease in children be essentially different from that in adults? Should medical treatment be persisted in longer? Should cholecystostomy rather than cholecystectomy be done? Seidler and Brakeley insist that in all cases of gallstones in children surgical therapy is the only means of relief. They state that most of those who have recently made contributions to the literature on this subject condemn undue delay in undertaking surgical exploration. Potter[2] was convinced in 1938 that gallbladder surgery in children was several years in arrears of the symptoms. He feels the disease is allowed to go untreated too long. Seidler and Brakeley[4] state that the large majority of cases of gallbladder disease in the 3rd and 4th decades give history of symptoms dating back to the 1st and 2nd decades of life. This constitutes a rather forceful argument for early diagnosis and treatment. It would seem that the same arguments for cholecystectomy in preference to cholecystostomy would be true for children as are true for adults.

Of those cases in Potter's first series in which the operative procedure was described, 49 cholecystostomies were done and 38 cholecystectomies. One case report of interest here is that by Edington[6] in 1930. This case was operated on at 15 years of age for gallstones, and the gallbladder drained. Nine years later an abscess and subsequently a fistula developed in the old scar through which gallstones were discharged. Chole-

4. Seidler, V. B., and Brakeley, E.: Gallstones in Children; Report of Case Diagnosed by Roentgen Examination and Confirmed at Operation, J. A. M. A. 114: 2082-2085 (May 25) 1940.

5. Quoted by Potter, A. H.: Biliary Disease In Young Subjects, Surg., Gynec. and Obst. 66: 604-610 (March) 1938.

6. Edington, G. H.: After History of Case of Gallstones in Young Subject, Brit. M. J. 1: 782 (April 26) 1930.

cystectomy was then done when the patient was 24 years of age.

REPORT OF CASE

The following is the report of a case operated on at the Hillman Hospital by the author in 1941:

W. R. L., Hospital No. 151839, colored, male child, 4 years and 4 months of age, was admitted September 8, 1941 to the Hillman Hospital with the complaint that he had been nauseated and had vomited intermittently for three days. Bowels had been regular. Pain in the abdomen had been intermittent in character. No bloody stools or diarrhea had been noted. The mother had observed a mass in the right upper abdomen but not until she had brought him to the hospital, three days after the onset of symptoms.

Past history revealed that he had been a full term baby, delivered normally in the home. He had had chickenpox, measles, mumps and whooping cough. The last illness was the mumps which had occurred about six months before. There had been no recent attack of influenza.

Family history was not significant. No gallbladder disease had been present, no diabetes, tuberculosis or malignancies.

Physical examination revealed a well developed and well nourished colored boy of about 4 years of age in some pain. Nausea and vomiting were noted at the time of the examination. Temperature was 99°, pulse 80, respiration 20. Head, neck and throat were normal. Heart and lungs were normal.

In the right upper quadrant of the abdomen was a mass the size of a lemon one inch above and to the right of the navel. The mass was constantly present and was tender and firm. It appeared to be somewhat movable.

The extremities were normal.

The white blood count was 7,750, and hemoglobin was 71%. Urine was negative for albumin, sugar, blood, pus and casts. Stool examination ten days later revealed no ova or parasites.

Operation was undertaken with the diagnosis of intussusception, although mention was made at the time of the possibility of an acute gallbladder. A markedly distended and acutely inflamed gallbladder was encountered with no adhesions around it. The liver was much enlarged, and a considerable portion of it around the gallbladder was markedly congested.

A cholecystectomy was done in the retrograde manner after aspiration of gallbladder contents. The contents were thin, light colored bile containing little pus.

The abdomen was closed in layers without drainage.

The specimen was examined by the late Dr. George S. Graham and the following is his description of the organ:

"Microscopic section shows a gallbladder with marked vascular engorgement and edema involving the whole thickness of the wall. The mucosal capillaries are distended and stuffed with red cells and leukocytes. There are frequent areas of interstitial hemorrhage, and the glandular epithelium is absent over some of the mucosal folds, the stroma here containing fibrin strands as well as red cells and leukocytes. The vascular distention involves the larger and smaller vessels, especially the veins of the muscular and serous coats and there is considerable edematous extravasation. The tissue is infiltrated by many leukocytes. Lymphocytes and eosinophils predominate but there are occasional neutrophils, especially in the mucosa. The fibroblasts of the interstitial tissue are swollen. Scattered through the tissue there are considerable numbers of phagocytic cells containing brown pigment granules. *Microscopic diagnosis*: Subacute Cholecystitis."

The child made an uneventful recovery, the highest postoperative temperature being 100°.

He was discharged on the 19th postoperative day.

A recent check (October 20, 1942) shows the boy to be in good condition. His mother states he has had no further pain in the abdomen. He eats anything he wishes.

COMMENT

The pathologist's description of the organ does not convey an accurate conception of the degree of inflammatory reaction as it appeared on opening the abdomen. The gallbladder was the size of a large pear, probably 6 cm. in diameter at the fundus and 12 to 14 cm. in length, with the cystic duct evidently completely blocked. The serosa was intensely red and this intense redness involved Glisson's capsule immediately adjacent to the gallbladder and for a considerable distance to the left.

One wonders if this might not have been a case of cholecystitis with hepatitis due to a soluble toxin instead of an actual infection as Schottmueller considered some of his cases to be.

Sensitization in Sulfonamide Therapy—The sulfonamide group of drugs represents one of the outstanding advances of medicine. It is unfortunate that sensitization to these drugs occurs so frequently. Fifteen per cent of those receiving sulfanilamide and 33 per cent of those receiving sulfathiazole become sensitized. It makes no difference whether the drug is given continuously over a long period or whether it is given intermittently. Sulfadiazine produces sensitization. So far it appears to be less highly allergenic than the other two but it should be borne in mind that we have not used it as long.

Sensitization to one of these drugs may remain specific for that drug or may result in sensitization to several or to all. One recent case, for example, developed allergic intolerance to sulfanilamide, sulfathiazole and sulfadiazine but was able to take sulfapyridine.

There are no reliable tests for determining sensitization.—*Vaughan, Virginia M. Monthly, Jan. '43.*

DELIVERING BABIES AT HOME*

By
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There is not always reason for the woman who has a baby at home to receive much less artistic obstetric skill than if she were delivered in a hospital. Statistics estimate that four-fifths of the babies born are delivered at home. This being the case it behooves the country doctor and the city doctor who delivers babies in the residence to keep up-to-date, and to see that his patient is not penalized because she is not in a hospital. When deliveries occur at the residence, neighbors, relatives and others usually observe the doctor's work, and, if it is good, he may get some praise; if bad, he is condemned. Sometimes when it is good, ignorant observers criticize unjustly. The hospital delivery is seen only by three or four nurses, and the doctor may not get any commendation there or elsewhere as a result of the patient being in the hospital.

The doctor who delivers many cases at home can go to the hospital and deliver a baby about as well as the doctor who delivers only in the hospital, whereas the hospital doctor would make a flat failure were he to attempt a delivery at the residence, on account of his inability to adapt himself quickly to such new surroundings. His reputation would be all but ruined as far as the observers went. The hospital obstetrician has a table covered with instruments to choose from as he thinks he needs. The man at the home delivery has a dozen or less instruments in a dish pan and can usually do very skillful work with fewer circus surroundings, if he is interested in obstetrics.

Most home deliveries are just as safe and just as good as the average hospital deliveries, provided the same man doing the work knows his obstetrics, which, however, comparatively few do know. The late Dr. Joseph B. DeLee, who, by the way has never had a superior as an obstetrician in this country, and very, very few equals, said the safest place for a woman to have her baby is in the home when a competent man is her doctor. He learned obstetrics in a pioneer way in the squalid Maxwell and Newberry district in Chicago. His work even in such surroundings was artistically beautiful to behold.

Residential obstetrics is much harder on the doctor than hospital deliveries. It is not the object of this paper to argue substitution of residential cases for hospital deliveries, but it will be to try to suggest ideas which may aid the doctor who is compelled to deliver his maternity patients at home. Perhaps every one prefers to work in a hospital. But because a man does all his deliveries in a hospital does not by any means indicate that he is a good obstetrician. Much very bad obstetrics may be seen in hospitals. Hospital cases are more easily handled, but there will always be that type of patient who is unable to pay both doctor and hospital, and the doctor is then forced to deliver her at home. He has to work much harder for his fee in that case. If a patient can pay both doctor and hospital, then by all means have that patient delivered in a hospital, if she will go. Finances largely decide in a city or town where there are hospitals as to whether the baby is to be born at home or in the hospital. It has always been the policy of the writer to care for his patients at home if they could not afford a hospital atmosphere. The economics of the case just has to be considered, regardless of the ideas of idealists.

In the majority of these cases the woman has not made any sacrifice in the kind of care she has received by remaning at home for the ordeal. She is always entitled to the best work her physician can render, regardless of the place of delivery.

I have done more than a thousand versions, and more than 2500 forceps deliveries at the homes of patients. I once did a version and extraction while the patient was reclining on her husband's lap. This woman was recently in my office, and the boy is now in the Australian army. Uncounted episiotomies have likewise been done at the residence, and also several placentae praevia have been cared for there. This latter condition, however, is very dangerous, no matter where done. I have never done a cesarean section at home, but would not hesitate to do so, if forced. I know some doctors who have done it successfully at home.

*Read before the Northwestern Division of the Association, Haleyville, May 27, 1942.

†Diplomate of the American Board of Obstetrics and Gynecology.

A doctor should continually study to improve his ability if he expects to succeed with his patients. The latter very quickly know whether he likes this type of practice.

Residential deliveries are done antiseptically; a hospital delivery is supposed to be done aseptically. I have never seen an aseptic birth room. There is absolutely no occasion for a doctor to carry a small trunk full of sterilized linens to a residential labor. The germs at a residence apparently are not so virulent as those at a hospital. Once upon a time the writer had just returned from several months' training in an eastern maternity, and there had been drilled into the students the utter horror of a lack of asceptic technic in a case of labor. The first obstetric patient I had after my return to my mining camp practice was a woman who had a postpartum hemorrhage following a precipitate labor. Before I could reach the patient a colored midwife had packed the vagina with old rags purposely covered with spider webs to induce clotting. I felt that my patient would die, but she never had any untoward symptoms, and was a mother again in two years. I was not converted, however, to the efficacy of cobwebs and old rags as the super means of treating hemorrhage.

In the hospital nursery today the baby is encased in a glass cage, and the nurses are taught to "throw a fit" if the doctor wishes to see his baby without putting on a sterile cap, mask and gown. At home, on the contrary, the doctor does not become unduly alarmed if Fido or Bruno Mussolini or Kitty Kat jumps up beside the cradle and kisses the baby a friendly welcome. Still, dogs and cats should never be permitted in the lying-in room at home at any time.

The interne is taught all the horrors of residential deliveries, and he is utterly useless when he tries to deliver a case at home. Four years' experience in one of our largest mining camps taught me that all this terrible fear of lack of asepsis is easily erased by doing things antiseptically. Some of the best doctors I have ever known are country doctors—many of them being able "to walk all over" the city doctor in diagnostic skill and general ability. Starched clothes and a big automobile and a cigar in the mouth and a hat tilted to the latest angle are not the marks of a great physician. Neither is slouchiness, for that matter. You see what I mean.

I do not know many who make rectal examinations at home. Some doctors make more rectal examinations, I am told, in the hospital than vaginals. I have a series of microscopic slides made from patients in labor obtained after this manner: Make a vaginal examination, and then immediately after make a cervical smear from this patient for the microscope. On the next patient make a rectal examination first, and then immediately after take a cervical smear for the microscope from this patient. Alternate thus for fifty patients in labor. Compare these slides—rectal with a vaginal, and so on throughout the series. Observe the difference.

There are far more bacteria on the slides from the cervical smears following rectal examinations than on the slides from the cervical smears following vaginal examinations. Nothing else could be expected. In making a vaginal examination bacteria are pushed up toward the cervix with the finger, of course, but mostly wiped off by the time the finger reaches the cervix. But when a rectal examination is made one smears the whole upper vaginal wall and vault all over the cervix. All kinds of vaginal flora are found in much larger numbers than when a vaginal is made. I plan to show these slides in a publication to be made later. If such a thing has ever been prepared before, I have never heard of it.

Although rectal examinations originated in Europe and were introduced into America by two leading teachers, both of whom are now dead, I have never seen a rectal examination made in any European Maternity, including Dublin, London, Berlin, Vienna and Paris. This does not mean that rectals are not made in those cities, but it does mean that rectal examinations are not the predominating method of examination. I never saw it done. The teachings of my microscopic slides make me feel very much afraid of rectal examinations. I believe that there is almost as much danger in making a rectal examination as there is in making a bare-handed vaginal examination.

There is very little reason why a doctor should hesitate to do a compulsory forceps delivery or an enforced version and extraction at the residence if he is sure of his sterilization, and knows how to do these operations as they should be done. It may be considerably more inconvenient, of course, than

were it done in a hospital, but when certain arrangements are carried out in the residence as a routine in all deliveries, these enforced operations become quite easy, and are as safe as if done in a hospital. For any residence delivery there are only a certain few instruments to be boiled up in a dish pan with the gloves, and four towels or baby napkins. Those which the writer has found most desirable for himself over a period of years are only 17. These instruments may be varied to suit each operator, of course. These seventeen are the same he uses in either hospital or residence deliveries, and are as follows: catheter, obstetric forceps, traction bar, scissors, 2 artery forceps, 2 vaginal retractors, 2 ring forceps, 2 Allis forceps, 3 needles, 1 thumb forceps with teeth, 1 needle holder. In the hospital they are arranged on the table in the exact sequence in which they are to be picked up. At the residence they are left in the dish pan in which they were boiled, and placed on a chair beside the doctor as he sits at the bedside during the delivery. The patient was told to take an enema when labor began, and is shaved after the doctor and nurse arrive. I rarely attend a residence delivery without a graduate nurse to assist. This has been my rule for the past seventeen years. My present assistant, Miss Mary Vardaman, R. N., has been such for the past ten years, and has been highly trained both in Chicago and Jersey City, and I find it pays to have a reliable assistant.

The bed is lifted from the floor by putting two bricks under each leg of the bed, the legs resting in castor cups to prevent slipping. The bed is prepared by putting an oil cloth over the sheet covering the mattress. A layer of six newspapers covered with a bath towel lies in such a way as to coincide with the length of the bed, and crosswise these is another layer of eight newspapers also covered with a bath towel, arranged so that one-fourth of their length hangs over a slop jar at the side of the bed. All are pinned together. All drapings for the patient and linen for the baby hang on the bed head. The patient, draped as desired, lying on these, is turned across the bed when she is about ready for delivery. The assistants sit on the bed, one on each side of the patient, and they support the patient's legs, while the anesthetist sits on the far side of the bed from the doctor's seat. The anesthetist may be a nurse, the husband or a neighbor, whom the doctor directs as to the manner the ether is given. Ether is almost as safely administered at home as in the hospital.

The anesthetist, two assistants and doctor wear caps and masks, and the doctor also has on a gown. These are all laundry-clean, but not sterile.

The doctor sits on a chair at the bedside of the patient so as to face the operative field. On one side of him are two chairs, the one nearer the bed holding a basin of cresol solution and a bottle of green soap. Twenty or more small cotton sponges are in the cresol. The chair further away from the bed supports the dish pan of instruments. Only one chair is on the other side of the doctor, and it supports a basin of cyanide of mercury solution. The nurse has shaved the patient.

The doctor washes his hands in running water with soap, or, in the absence of faucets, in a basin. Then he goes to the patient, who has already been arranged as mentioned before, and rinses his hands, first in the cyanide solution and then in the cresol solution. The gloves are removed from the dish pan and dropped into the cresol solution.

A little green soap is poured on his hands and the wet gloves are then easily slipped on. Cotton pledgets are squeezed over the operative field, first from the cyanide solution and then from the cresol. The patient is catheterized. One of the sterile towels is pushed under the patient's buttocks. Tincture of green soap is repeatedly poured into the vagina, and the two solutions are squeezed over the outlet repeatedly. This soap is both an antiseptic and a lubricant. The gloved hands are almost constantly dipped into the two solutions throughout the delivery. Episiotomy is made if needed, and the labor terminated as the doctor desires.

The cord is clamped and cut by the doctor and the baby handed to the nurse. One of the sterile towels is laid over the patient's abdomen to support the instruments if there is any repair.

The patient is next turned on her side toward the foot of the bed, and the eight sheets of paper and the top bath towel are unpinned and rolled under her. She is then turned back toward the head of the bed, and the other pins removed and the papers and towel discarded. She is then lifted into proper position on the bed, being on top of the first

bath towel and six sheets of newspapers. No gown or bedding is soiled once in fifty cases.

Each doctor modifies any plan to suit himself. He may have considerable difficulty when he attempts to do his first forceps delivery or version at a residence, but with some practice he will soon be working like a veteran. Breech extractions are done with the patient just as above described. The writer rarely delivers a residence case in any position other than named. There is seldom ever any difficulty in finding assistants for these cases. Relatives are not desirable for this purpose.

The after-results in residential deliveries are usually as good as in hospital cases. Rarely ever do any sutures break down, and the convalescence is almost always normal. The aftercare of the patient is the same as in a hospital case.

Maternal mortality and morbidity are not increased as a result of the baby being born at home. Perhaps it is not so great, because many doctors send their bad cases to a hospital, which must be shown in their statistics. Fetal mortality may be slightly higher at home as a result of a lack of oxygen in some instances, but even then the fetal mortality is very small.

In conclusion, let it be said that the doctor must give his best efforts in his deliveries, no matter where done. The most dangerous and the most trying time in the life of a woman undergoing a so-called normal function is that through which she passes when in labor. Aid her all you can with your best obstetric skill.

These conclusions are based on a personal experience of more than 6,400 obstetric cases, plus the observation of 1,300 additional deliveries seen done by the best men in Dublin, London, Berlin, Vienna and Paris, and in most of the eastern maternities in this country, or nearly eight thousand deliveries.

Woodward Building

Bronchiectasis—The classical symptom is a severe cough with profuse expectoration which separates out into three layers; a frothy layer at the top, liquid for the second layer and a sediment at the bottom layer. From time immemorial this has characterized the classical description of a bronchiectatic sputum. This only occurs in the long-standing, well-established case with good drainage and certainly fits that picture most admirably.

The case that gives the physician most concern is the border line patient.—*Gowen, New Orleans M. & S. J., Jan.* '43.

CARDIAC NEUROSIS*

By
R. OLNEY RUSSELL, M. D., F. A. C. P.
Birmingham, Alabama

In this day of global war with fear and apprehension on every side, there is small wonder the nervous system of many people is being tried. Those individuals, be they soldiers or civilians, endowed with strong healthy bodies and good nervous systems, will probably endure all difficulties and come through with flying colors. On the other hand, those individuals who inherited frail bodies and poor nervous systems are very apt to encounter numerous difficulties. Strong emotional reactions brought about by war stimulate the sympathetic and parasympathetic nervous systems and cause definite reactions in organs throughout the body. One of the organs in which functional disturbances frequently occur is the heart. It is these functional disturbances of the heart that I wish to discuss at this time. Many names have been given to this condition: irritable heart, effort syndrome, cardiac neurosis, neurocirculatory asthenia and functional heart disease.

I like the term cardiac neurosis, as this does not imply or suggest organic heart disease to the patient.

DaCosta saw and described some 300 of these cases during the War Between the States. Very little thought was given this condition again until World War I, when numerous soldiers were sent back from the front to England with "disordered action of the heart." Sir Thomas Lewis, after thorough investigation, showed conclusively that as far as the circulatory system was concerned the condition was entirely functional. Lewis devised the term effort syndrome.

The syndrome was frequently encountered among the drafted men of our army. Most of the men were from rural sections. We are again faced with the problem of recognizing and properly classifying functional heart conditions in our present conflict.

Cardiac neurosis is also seen in civilian life among women and children as well as men. Certain types of people are more apt to show these functional disturbances. The frail, narrow chested, visceroptotic, emotion-

*Read before the Birmingham Medico-Surgical Club, November 27, 1942.

ally unstable, self-conscious introvert is the usual type affected. These individuals seem to inherit poor materials in their make-up and are unable to stand the stress and strain put upon them. They are constitutionally inferior. The physically subnormal type of individual who is unable to do heavy work is often a victim.

Infection may be an etiologic factor in pneumonia, rheumatic fever, tonsillitis or influenza. Any acute infection may be a predisposing factor in the development of cardiac neurosis. Nutritional deficiency and secondary anemia also play a part at times. Herman feels that fear, anxiety, and worry play a greater role as predisposing factors than undernutrition.

SYMPTOMS

One of the first and most frequent complaints is shortness of breath on slight exertion. Another common complaint is palpitation. "My heart pounds so hard it shakes the bed," is a common complaint of these people. Pain or discomfort over the precordium is another symptom. The pain may be associated with nervousness rather than exercise, and usually does not radiate. It is not a severe pain and usually subsides with rest. There is often a precordial tenderness or hyperalgesia. Weakness and fatigue are complained of. The fatigue is related to nervous exhaustion rather than physical exertion. Attacks of dizziness and syncope are not uncommon. Excessive perspiration is frequently present. These people may give a history of an irregular pulse.

PHYSICAL SIGNS

Physical examination reveals an anxious, worried expression. The shortness of breath and dyspnea show shallow, irregular, breathing associated with long sighing respiration. Dyspnea shows no relation to exercise, but is related to nervousness. The patient can usually lie comfortably in the horizontal position. Examination of the lungs of neurotic patients shows no rales. The hands are cold and moist, with a tremor. Perspiration drips from the axillae. The heart is rapid. At times premature systoles are present which may or may not mean organic disease. If no other evidence of heart disease can be found, these extra systoles should be considered functional. Pain and hyperalgesia may be gotten rid of by spraying the left side of chest with ethyl chloride or injecting a small amount of novocaine intradermally. In the course of the examination the physician is impressed with the fact that all of the subjective symptoms are out of proportion to the objective physical findings.

DIAGNOSIS

Many of the symptoms of cardiac neurosis are seen in organic heart disease and the differential diagnosis may be difficult at times.

Hyperthyroidism simulates functional heart disease. In hyperthyroidism, one usually sees an enlarged thyroid, exophthalmos, a persistent tachycardia, warm, moist skin, and a high basal metabolism. These toxic thyroid cases have a good appetite, but show weight loss. Cardiac neurosis patients show weight loss because they do not eat enough. Tachycardia is associated with emotional disturbance on slight exertion in cardiac neurosis. The basal metabolism reading is normal or very slightly increased.

Chronic pulmonary tuberculosis must also be ruled out. A history of contact, low grade fever, cough, night sweats, positive Mantoux, increased sedimentation rate, and positive physical and x-ray findings are found in tuberculosis.

In cardiac neurosis, x-ray examination shows the heart of normal size and contour. The electrocardiogram is normal in most cases. A careful, well taken history, a thorough physical examination, and close observation of the patient while the examination is being made will usually make a correct diagnosis of cardiac neurosis. Knowing the patient's family background is worth a good deal. The usual classical signs and symptoms of organic heart disease are absent.

TREATMENT

In the mild cases much can be accomplished. The physician should gain the patient's confidence during the course of the examination. The patient should be impressed with the thoroughness of the examination, and certainly the diagnostic study should be thorough to rule out organic disease. One must ever keep in mind that emotionally unstable nervous people can and do have organic disease. These functional cases should have explained to them in simple plain language their status, and that they do not have organic heart disease. Reassurance means much. Treatment of secondary anemia, the giving of vitamins when indi-

cated, and advice as to the proper diet are all necessary, in keeping these patients in their best possible physical condition. Stimulants as tea, coffee, and alcohol are prohibited. Moderate outdoor exercise and hygienic measures are helpful. A lot of sleep is essential. Rest is also needed but this is better taken at home, as hospitalization is usually harmful. The home life should be pleasant. Nagging by a member of the family frequently increases nervousness in an already nervous individual. Mild sedatives, as chloral or phenobarbital, will help to guide these people through periods of stress and strain.

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Orbital Complications in Sinus Disease—Given a patient with swollen lids, conjunctival edema, proptosis, displacement and fixation of the globe, and a history of recent onset—the chances are seven out of ten that there is an orbital infection which has spread from one of the sinuses. . .

The treatment may be undertaken by the ophthalmologist or the rhinologist. The former will be quite content to save the eye and the patient; but the latter will want to save the eye and the patient and cure the sinusitis. The latter desire is a laudable one and may be achieved; but if perchance radical operations upon the sinuses may be necessary to cure the patient, this is certainly not the time to do it. Acute cases are reported wherein the ethmoid was exenterated, the sphenoid opened and the Killian and Caldwell-Luc operations performed for good measure. St. Clair Thompson states that intracranial complications of sinusitis, both acute and chronic, are twice as frequent following sinus operations as those that arise spontaneously. Most of us will probably agree that it is doubly dangerous to do radical operations in acute cases. Assuming that a patient is seen early a suitable sulfa drug may be administered and proper treatment for the sinusitis instituted. Sufficient opiates or hypnotics should be given to keep the patient comfortable and the family satisfied if possible. This having been done, one may await developments for twenty-four hours.

A few of these cases will begin to subside under such a regime. If the swelling, edema and fixation of the globe continue to increase through this period, it is time to intervene. In this hypothetical case, pus should have formed in the orbit, but certainly not a large fluctuating collection. Why wait so long? I have been unable to find any very definite instructions relative to the technique for draining these infections. Various stab wounds through the lids are usually resorted to, but at the present time, I feel a better incision is available. This is a short incision, such as is used in the external ethmofrontal operations. It should follow the anterior lacrimal crest and divide both the skin and periosteum. The periosteum and the lacrimal sac should be elevated and displaced toward the eyeball. By suitably retracting this incision, and further elevating the periosteum, the paper plate and the floor of the frontal sinus can be adequately inspected. If a fistula is encountered in either the frontal or the ethmoid sinus, or both, these should be sparingly enlarged so as to drain the frontal sinus externally and the ethmoid into the nasal cavity as well as externally. A suitable rubber catheter is inserted into the infected area for drainage and stitched to the skin. This type of approach affords adequate exposure for inspection of the sinus walls and evacuation of pus in a dependent position. The cosmetic result of this incision is excellent. This is often not the case where drainage is established through the lids.—*Snow, Texas State J. Med., Jan. '43.*

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CONSTITUTIONAL INADEQUACY

"The main trouble with many of the patients that I see every day is that they are always weak and tired and full of pains and always getting sick in one way or another. Many have been operated on several times, but still they aren't well and they cannot get about and have fun as other people do. Some of the men cannot earn a living, and many of the women complain that they haven't strength and 'pep' enough to be a satisfactory wife or mother. They drag around, they cannot do their housework, and they haven't the energy to go out anywhere with their husbands.

"Again and again these patients go to some consultant or medical institution with the idea that this time they will get examined so thoroughly that the cause of all their troubles will be found and perhaps removed. Again and again they get overhauled, and each time the physician finds some little abnormality or physical peculiarity which he views with alarm and treats for a while.

"Commonest among the diagnoses made nowadays in the hope of explaining the sufferings of these people are colitis, spastic colon, ptosis, pelvic disease, adhesions, chronic appendicitis, glandular dysfunction, low blood pressure, mild Addison's disease, low blood calcium, brucellosis and chronic nervous exhaustion. That in a given case the diagnoses made in the past were wrong and the local abnormalities found were not sufficient to explain the illness can be seen from one fact alone, and this is that the extensive treatments carried out and the operations performed in an effort to correct the supposed diseases did not put an end to the symptoms."

In the above paragraphs Alvarez[1] admirably and succinctly sums up the problem of how best to deal with these people who go from doctor to doctor and, not infrequently, from quack to quack also in a persistent and vain attempt to attain or regain normal health and vigor. Alvarez holds that it is incumbent upon the profession to recognize these individuals promptly, when they first begin to crack up and that "when we do recognize the functional nature of the syndrome we must not rest satisfied with the diagnosis of chronic nervous exhaustion, as so many of us are now inclined to do, but must go on to apply a label—constitutional inadequacy—which will keep reminding us that we are dealing with an inborn and essentially ineradicable disease." And he prefers the term constitutional inadequacy to constitutional or biologic inferiority because "many a person who might object to being called inferior will admit freely that he is inadequate to stand up well to the stresses of life."

The Rochester clinician believes that "whatever the cause of this protean syndrome is, I am sure it is not to be found in any disease in any one organ, unless it is the brain. Actually, in most cases I feel sure the primary constitutional weakness is in the nervous system." And also that "the main defect in the inadequate person seems often to be a lack of that something in the brain that keeps most persons feeling well and unconcerned about health."

Alvarez believes that "constitutional inadequacy is inherited from forebears who suffered either from inadequacy, frailness of body, poor pituitary development or some form of psychopathy." And we are also told that "treatment must consist mainly of keeping the patients from doing foolish things and wasting money. They must be taught, if possible, to acquiesce to the situation, to stop hunting for a complete cure, to hoard

1. Alvarez, Walter C.: Constitutional Inadequacy, J. A. M. A. 119: 780 (July 4) 1942.

their energies and to find a job that can be done without too much fatigue.

"In times of war every effort must be made to keep the constitutionally inadequate out of the Army. All they do is to break down morale and go on the pension roll."

Though his article is brief, the Rochester investigator has managed to cover a difficult subject well and in a convincing manner. Apparently the constitutionally inferior will be with us for a long time and every practitioner must strive to recognize them promptly and then endeavor to deal with them in the best possible manner. The recognition and proper evaluation of the functional disorders is especially deficient in students, internes and very young doctors, though many older physicians fail all too often in this respect also. Handling these patients is apt to be difficult in the extreme and calls for much tact, sympathy and understanding as well as diagnostic acumen and therapeutic proficiency.

COMMITTEE CONTRIBUTIONS

PHYSICIAN-DRUGGIST RELATIONSHIPS

R. E. Cloud, Chairman
Ensley, Alabama

A disturbing factor in the relationship between the doctor and the druggist is the patient or customer. Conditions obtain and occasions arise when advice from a physician is, or seems, important. The doctor is called over the telephone or stopped on the street when, not infrequently, he is asked for a remedy, or he may be requested to telephone a prescription to the druggist. Of course he often complies with such requests. Consultations of this character are natural and, to a limited extent, desirable, but have a tendency to be carried to extremes.

It is no doubt true that individuals are, more or less frequently, told by harassed doctors to take some barbiturate or other hypnotic, some one of the sulfonamides, etc., without giving particular thought as to where and how the medicine may be obtained. Having grasped the name of the drug, or perhaps being already familiar with it, these people then go to the druggist and expect to buy it over the counter. If, as he should, the pharmacist refuses, the customer is disgruntled, feeling that refusal was unjustified since his physician had made no mention of the need for a prescription.

In extenuation, the doctor, generally speaking, knows less than the druggist about laws relating to the dispensing or sale over the counter of hypnotics and other dangerous drugs. He does not at all seem legally involved in such transactions, hence the physician is less conscious of legal restrictions and apt to overlook or fail to give thought to his moral obligation to prevent, as far as he is able, the indiscriminate use of dangerous drugs by the general public.

The Professional Relations Committee of the Alabama Pharmaceutical Association has submitted some of the pharmacists' problems as follows:

"Quinine is vitally needed by our military forces and the War Production Board has issued strict regulations against dispensing it except for treatment of malaria. Regulations require that the physician certify to this diagnosis when the drug is being prescribed."

"It seems not generally understood that there is a state law prohibiting the sale of barbiturates except on original written prescriptions."

"The Federal Food, Drug and Cosmetic Act prohibits the sale of certain dangerous drugs across the counter. Among them are the sulfonamides. These drugs may legally be dispensed only on prescriptions."

"Since war has interfered with the importation of opiates, narcotic addicts and thieves are particularly active and are using all sorts of methods to obtain these drugs. One of the commonest schemes is to impersonate a doctor over the phone and ask the druggist to send morphine to a fictitious address, picking up the prescription when the package is delivered. Then the delivery boy is intercepted and the package taken. Druggists have had considerable trouble with this problem lately."

The different measures regulating the sale and prescribing of medicines in Alabama are:

(1) The Federal narcotic law, with which we are all familiar.

(2) The Alabama law prohibiting the sale without a written prescription, of the barbiturates, chloral, etc. A copy of this law is appended.

(3) Orders of the War Production Board.

Quinine and totaquine are restricted for the present for treatment of malaria.

(4) The Federal Food, Drug and Cosmetic Act.

The first three measures listed above seem clear enough but there is more or less misunderstanding regarding the last.

This law was enacted "to prohibit the movement in interstate commerce of adulterated and misbranded food, drugs and devices, and cosmetics, and for other purposes." Its obvious intent from a medical point of view is to protect the public from fraud and harmful effects of drugs that are ordinarily sold over the counter and to prevent the sale or dispensing of narcotic, hypnotic, habit-forming and dangerous drugs except under labeling specified in detail by the Federal Security Agency or on prescriptions of physicians, dentists and veterinarians.

The Food and Drug Administration of the Federal Security Agency has this to say: [1]

"Since there is a large number of very valuable drugs which cannot be safely administered except under the supervision of a physician, we have suggested to manufacturers that these do not bear on their labeling directions for use, but use the legend 'Caution: To be used only by or on the prescription of a physician' as provided by the regulations under section 502 (f). The sale of drugs so labeled other than on a prescription will, in our opinion, constitute a violation of the Act."

The foregoing paragraph refers to drugs shipped and delivered for use exclusively by or on prescription of physicians, dentists or veterinarians licensed by law to administer such drugs or devices. By virtue of the use of the *caution legend* just mentioned, they are exempt from the necessity of being labeled with directions for use but not from any of the other labeling required for drugs that may be sold without a prescription. Quoting from the Act,[2] Sec. 502 (f), Regulation (b), "If such shipment or delivery, or any part thereof, is otherwise disposed of as a drug or device, such exemption shall thereupon expire. The causing of any person of such an exemption so to expire shall be considered to be an act of misbranding for which such person shall be liable unless, prior to such disposition, such drug or device is labeled to comply with Clause (1) of Section 502 (f) of the Act."

1. Correspondence with the Food and Drug Administration.

2. Federal Food, Drug and Cosmetic Act, revised August 1941.

As to telephoning prescriptions, the Administrator advises: "The question of whether or not a prescription may be telephoned instead of being presented in writing is one which is regulated by state and local laws. In order to benefit from the exemptions specified in Section 503 (b) of the Act, it is required that the prescription be written." The preceding sentence is explained: [1] "This does not mean necessarily that the filling of a telephoned prescription constitutes a violation of the Act. If a pharmacist fills a prescription *telephoned* to him and *sends it across a state line* without placing upon the label all the information required by the law to appear on drugs generally, he violates the Act."

The Act[2] (Sec. 503-b) requires that a prescription must be marked by the writer thereof as not refillable or its refilling is prohibited by law, if any of the following narcotic or hypnotic substances are prescribed thereon: alpha-eucaine, barbituric acid, beta-eucaine, bromal, cannabis, carbromal, chloral, coca, cocaine, codeine, heroin, marihuana, morphine, opium, paraldehyde, peyote, or sulphonmethane, or any chemical derivative of such substance, which derivative has been by the Administrator, after investigation, found to be, and by regulations designated as habit forming.

In further explanation of the above: [1] "If a prescription containing any of these substances is not marked 'nonrefillable'; or its refilling is not prohibited by law, the druggist must place the statement 'Warning—May Be Habit Forming' on the label. He is exempt from this requirement if the prescription is not refillable."

"We have expressed the opinion that under ordinary circumstances when a physician writes a prescription he prescribes what he thinks his patient needs for the occasion and does not contemplate continued refilling of the prescription. If the article prescribed constitutes a 'dangerous drug' we think the pharmacist should not refill it without the physicians specific authorization."

The Alabama law requiring a written prescription for the sale of the barbiturates, etc., follows:

AN ACT

(No. 236) (H. 300—Tolbert)

To prohibit the sale of barbital, sulphonethylmethane (trional), sulphonmethane (sulphonal), diethylsulphon diethylemethane (tetronal), paraldehyde and chloral or choral hydrate or any of

its derivatives, compounds or mixtures of any of these drugs possessing hypnotic properties or effects, except upon prescriptions of lawfully authorized practitioners of medicine, dentistry or veterinary medicine.

Be it enacted by the Legislature of Alabama

Sec. 1. No person, firm or corporation shall sell, furnish or give away any barbital, sulphonethymethane (trional), sulphonemethane (sulphonal), diethylsulphone diethylemethane (tetronal), paraldehyde and chloral or choral hydrate or any of these drugs possessing hypnotic properties or effects, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, which order or prescription shall be dated and contain the name of the person for whom prescribed, or, if ordered by a practitioner of veterinary medicine, it shall state the kind of animal for which ordered and shall be signed by the person giving the prescription or order.

Sec. 2. Any person violating any of the provisions of this Act shall be guilty of a misdemeanor and shall be fined not less than ten dollars ($10.00) or more than five hundred dollars ($500.00).

Sec. 3. All laws and parts of laws in conflict with the provisions of this Act are hereby expressly repealed.

Approved August 8th, 1935.

MEDICINE AND THE WAR

HEALTH AND WELFARE SERVICES

The following bulletin has been circulated under date of December 23, 1942 by the national headquarters of the Selective Service System:

1. The War Manpower Commission has certified that health and welfare services is an activity essential to the support of the war effort.

2. This bulletin covers the following essential activities which are considered as included within the list attached to Local Board Release No. 115, as amended:

(a) *Health and welfare services*: Offices of physicians, surgeons, dentists, oculists, osteopaths, mortuary services, podiatrists, and veterinarians; medical and dental laboratories; hospitals, nursing services; institutional care; auxiliary civilian welfare services to the armed forces; welfare services to war workers and their families.

3. The following list of occupations in health and welfare services are occupations requiring a reasonable degree of training, qualification, or skill to perform the duties involved. It is the purpose of this list to set forth the important occupations in health and welfare services which must be filled by persons capable of performing the duties involved, in order that the activity may be maintained efficiently. This list is confined to those occupations which require six months or more of training and preparation.

Critical Occupations
Health and Welfare Services

Anesthetist
Bacteriologist
Biologist
Chemist
Dental Hygienist

Dental Technician (All Around)—(This title covers those workers who are engaged in all of the tasks required in the making of either plaster models; dental fittings and full and partial dentures, or bridges. It does not include workers who perform in only one or several of the tasks required in each phase such as trimming edges of plaster models, soldering of crown seams, cementing of porcelain jackets or polishing of parts, etc.)

Dentist
Dietitian, Institutional

Embalmer—(Included under this title are only those licensed persons who are qualified to perform embalming services in conformity with state laws, and who are engaged full time in such employment.)

Field Director—(Auxiliary civilian welfare service to the armed forces in continental USA and abroad. Included under this title are those persons who are certified by the armed services as actively engaged in a supervisory, or technical capacity in civilian welfare work to armed forces stationed at military or naval centers in the continental USA and abroad, or who are actively serving with task forces. Depending on their assignment, they may specialize in counseling servicemen regarding personal and family problems, supervise housing, feeding, recreation and general morale work of servicemen on leave in foreign cities.)

Food analyst
Immunologist
Interne, Medical
Medical Technician
Nurse
Nutritionist, Institutional
Occupational Therapist, Supervising
Oculist
Optical Inspector

Optical Mechanic (All Around)—(Included under this title are workers who engage in all of the tasks required in either optical lens surface grinding or bench work, as required in the compounding of eyeglasses and spectacles according to or for prescriptions. It does not include work-

ers who specialize in only one or several of the tasks included in each of these 2 phases, such as blocking, fining, drilling, or mounting.)

Optometrist
Osteopath
Oxygen-Therapy-Equipment Technician
Parasitologist
Pathologist
Pharmacist—(This title includes only those persons who are licensed to practice pharmacy in conformance with state laws; who are actively engaged in the practice of pharmacy, and whose professional services are available on a full-time basis. It does not include pharmacists when engaged in other than the practice of pharmacy, or other persons who may be employed in a pharmacy or drug store.)
Physician
Podiatrist
Surgeon
Veterinarian, Livestock
X-Ray Technician

4. In classifying registrants employed in these activities, consideration should be given to the following:

(a) the training, qualification, or skill required for the proper discharge of the duties involved in his occupation;

(b) the training, qualification, or skill of the registrant to engage in his occupation; and

(c) the availability of persons with his qualifications or skill, or who can be trained to his qualification, to replace the registrant and the time in which such replacement can be made.

Apropos of the foregoing, ten of Alabama's County Health Officers are in service. Of those who remain—49—twelve are less than 45, thirty-five are 45 or older, and two are women. Four of those who are less than 45 years of age are serving the important counties of Jefferson, Mobile, Tuscaloosa and Colbert; seven are in charge of bicounty projects; and the twelfth one is physically disqualified. Twenty-eight of Alabama's counties are now being served by fourteen health officers, and two are uncovered.

SELECTIVE SERVICE DEFERMENT OF PHYSICIANS, MEDICAL STUDENTS AND PREMEDICAL STUDENTS

The following bulletin has been circulated under date of December 14, 1942 by the national headquarters of the Selective Service System:

1. *Persons Qualified.*—There are certain persons trained, qualified or skilled in the practice of medicine, dentistry, veterinary medicine and osteopathy who, if engaged in the practice of their respective professions, are in a position to perform vital service in activities essential to war production and to the support of the war effort and in activities the maintenance of which is necessary to the health, safety and welfare of the nation.

2. *Critical Occupations.*—The War Manpower Commission has certified that in the practice of medicine, dentistry, veterinary medicine and osteopathy, and in training and preparation therefor, there are critical occupations which, for the proper discharge of the duties involved, require a high degree of training, qualification or skill. In the accompanying tabulation is a list of "critical occupations" in medicine, dentistry, veterinary medicine, and osteopathy.

3. *Consideration of Occupational Classification.*—The War Manpower Commission has certified that there are serious shortages of persons trained, qualified or skilled to engage in these critical occupations. Accordingly, careful consideration for occupational classification should be given to all persons trained, qualified or skilled in these critical occupations and engaged in activities essential to the health, safety and welfare necessary to war production and essential to the support of the war effort, and persons in training and preparation therefor.

4. *Students in Preprofessional Training.*—A registrant who is in training and preparation as a premedical, predental, preveterinarian or preosteopathic student, pursuing courses in liberal arts or sciences in a recognized university or college, may be considered for occupational deferment after completion of his first academic year in such professional course, and thereafter if he is a full time student in good standing, if he continues to maintain good standing in such course of study and if it is certified by the institution that he is competent and that he gives promise of successful completion of such course of study and acquiring the necessary degree of training, qualification or skill.

5. *Students in Professional Schools.*—A registrant who is in training and preparation as a medical, dental, veterinary or osteopathic student in a recognized medical school, dental school, school of veterinary medicine or school of osteopathy shall be considered for occupational classification during the period of such professional course, provided he is a full time student in good standing, he continues to maintain good standing in such course of study and if it is certified by the institution that he is competent and that he gives promise of the successful completion of such course of study and acquiring the necessary degree of training, qualification or skill to become a recognized medical doctor, dentist, doctor of veterinary medicine or osteopath.

6. *Internes.*—A registrant who has completed his preprofessional and professional training and preparation as a medical doctor, dentist or osteopath, and who is undertaking further studies in a hospital, institution or dental clinic giving a recognized interneship, shall be considered for occupational classification so long as he continues the interneship but for a period not to exceed one complete year.

7. *Opportunity to Engage in Profession.*—When a registrant has completed his training and preparation in a recognized college or university, or in a recognized hospital, institution or dental clinic, and has acquired the high degree of training, qualification or skill in one of these professional fields, such registrant should then be given the opportunity to become engaged in the practice of his profession in the armed forces, or in a civilian activity necessary to the public health, safety or welfare necessary to war production, or essential to the support of the war effort. In many instances, following graduation from a recognized college or university, or the completion of an interneship, a certain period of time will be required in the placing of such persons in an essential activity. When a registrant has been deferred as a necessary man in order to complete his training and preparation, it is only logical that his deferment should continue until he has had an opportuntiy to put his professional training and skill to use in the best interest of the nation. Accordingly, following graduation in any of these professional fields or following an internship, a registrant should be considered for further occupational classification for a period of not to exceed sixty days in order that he may have an opportunity to engage in a critical occupation of his profession in the armed forces, war production, support of the war effort, or in an activity essential to civilian health, safety or welfare, provided that during such period the registrant is making an honest and diligent effort to become so engaged.

Critical Occupations: Medical, Dental, Veterinary and Osteopathic

Preprofessional student after completion of his first academic year in such preprofessional course:
- Premedical
- Predental
- Preveterinary
- Preosteopathic

Professional students during full professional course following completion of preprofessional course:
- Medical
- Dental
- Veterinary
- Osteopathic

Intern in hospital, institution or dental clinic, giving recognized interneship following completion of professional studies:
- Medical interns
- Dental interns
- Osteopathic interns

Persons engaged in practice of their respective professions:
- Medical doctors
- Dentists
- Doctors of veterinary medicine (engaged in care of animals raised and maintained for work or food or in the inspection of meat food products)
- Osteopaths

8. *Deferment Permitted Whether or Not Commission is Pending.*—The official statement of any recognized premedical, predental, preveterinary or preosteopathic college or university, the official statement of any recognized medical, dental, veterinary or osteopathic college or university, or the official statement of any hospital, institution or dental clinic giving a recognized internship, showing that a registrant satisfied the requirements of this bulletin, shall be sufficient for the consideration of such registrant for occupational classification on occupational grounds solely. Registrants will be considered for occupational classification as prescribed in this bulletin without regard for the fact that a commission in the armed forces may be granted to him or is pending.

9. *Procurement and Assignment Service.*—In order that every doctor, dentist or veterinarian may render the greatest professional service to the nation, the President has created the Procurement and Assignment Service for the purpose of gathering information with respect to the supply of qualified medical doctors, dentists and doctors of veterinary medicine. To work with headquarters of the Procurement and Assignment Service, there have been appointed for each state and the District of Columbia a state chairman for medical doctors, a state chairman for dentists and a state chairman for doctors of veterinary medicine. When considering the classification of any registrant who is a medical doctor, dentist or doctor of veterinary medicine, the director of Selective Service desires that local boards, through the state director, shall consult with the respective state chairman of the Procurement and Assignment Service.

10. *List of State Chairmen.*—Names and addresses of the respective state chairmen of the Procurement and Assignment Service will be provided to state directors from time to time.

11. *Effective Period of This Bulletin.*—This bulletin is effective until July 1, 1943, unless sooner amended. During the effective period of this bulletin the War Manpower Commission is giving further study to the training and preparation and utilization of persons trained in these professional fields.

NEW PLANS FOR MEDICAL EDUCATION

SPECIALIZED TRAINING PROGRAMS OF THE ARMY AND NAVY

The armed forces have need of the services of men with specialized training. They will utilize available facilities of certain American colleges to institute the training. Those receiving the training will be on active duty in uniform receiving pay and general military discipline. Arrangements will be made with various selected institutions for housing and messing facilities as well as for the actual training.

The plan here described has resulted from conferences between the Army, Navy, War Manpower Commission, and American Council on Education. The plan will be undertaken by the first three of these through a joint committee, with the final decisions in controversial matters being settled by the War Manpower Commission. Although it has been stated that the Army and Navy plans are similar, all data available at present indicate that there is considerable variation in the two programs.

THE ARMY

Selection will be governed by standards used for officers' candidate schools and some additional standards of the American Council on Education. Selection will be made from enlisted men who have completed or are completing basic military training and, except for some of the advanced courses, are under 22 years of age.

There are also eight special groups the members of which will be given training under this plan, including the following:

1. Medical students in the enlisted reserve, who will be called to active duty and detailed to continue instruction.

2. Medical students commissioned in the Medical Administrative Corps who may resign commissions and enlist as privates, to be detailed in the same manner as medical students in the enlisted reserve.

3. Premedical students in the enlisted reserve corps, who will continue on inactive status until the first semester of 1943 and will then be detailed as above.

4. Medical and premedical students not in the enlisted reserve who are taking approved courses, who will be inducted in Selective Service before the first semester of 1943, will be placed on inactive duty for a semester and then detailed for further training as above.

Colleges will be selected on the basis of standards, equipment, adequacy of housing and messing facilities, and minimum Army overhead. The standard of adequate proficiency is to be determined by the Army and the American Council on Education. Initial tests to predetermine the suitability of selectees will be evolved. Standard curriculums will be set by the Army and the American Council on Education. Military training will be given to these students during these courses of instruction under a cadet system. The plan will go into effect in February 1943 under the Commanding General of the Service of Supplies.

THE NAVY

Selection will be made of those having potential officer qualifications. Selections will be from high school graduates or the equivalent, from the seventeenth to the twentieth birthday, and enrolled or inducted men from the seventeenth to the twenty-third birthday. They will become apprentice seamen or privates in the U. S. Marine Corps on active duty with pay and will be assigned to designated colleges. Some other groups will also enter the training program, including V-1 or V-7 reservists who are undergraduates and qualify as medical, dental and theological students, who will continue on active duty as apprentice seamen under instructions in an accelerated curriculum in approved schools and seminaries until the completion of their professional studies.

Selectees can indicate the preference of their colleges and the branch of the service which they wish to join, including the Marine or the Coast Guard. Adequate arrangements for such students will be provided by the colleges under contract with the Navy, which will designate the number of students for the institution and the cost of maintenance of each student. The plan will be carried out under one naval officer in each institution, who will issue instructions as to discipline and routine. Outlines of curriculums will be released by the Bureau of Navy Personnel. Credits will be allowed for scheduled courses which have already been completed and substitution of courses permitted.

A special required minimum for premedical students is similar to standard premedical requirements of medical schools. If the students are qualified at the termination of their course, they will be commissioned in the appropriate reserve. The Navy has issued special details for the correlation of this program with existing programs and specific directions for those who are now in V-1, V-5 and V-7 reserves, Naval ROTC, or who are probationary commissioned students.

Medicine Looks at War—The next great task which faces the medical profession in this country is distribution of physicians to industry and civilian practice. It is true that many rural districts have been denuded of doctors. This is not always the result of army recruitment or pressure on the medical profession, but frequently was caused by doctors volunteering for the armed forces out of patriotic motives or in the belief that they would better their position.

Actually, the grave problem is providing medical care for mushrooming industrial towns which have grown up in weeks or months and for which there has been no over-all plan to secure medical men. Recently I heard the Chairman of the Procurement and Assignment Agency say that of the total number of physicians available for practice in the country, approximately 80,000 were available for civilian practice and industry, thus allowing to the Army and Navy, Public Health, Veterans Administration, and essential men to the teaching institutions and hospitals, approximately 60,000 more men. In the five states which contain the largest urban populations, the reluctance on the part of physicians, and particularly physicians under forty-five years of age, to enter military service has been marked. The question is more complex as the Army recruitment campaign is carried on successfully and it is one which the Procurement and Assignment Agency still is attempting to solve on a voluntary basis. Often in the heat of argument and in the enthusiasm of the press there is too much loose talk of allocating doctors here and there and drafting doctors. It should be understood definitely that this dislocation and allocation is, up to the present time, on a voluntary basis. There is no question at the present time of applying the Selective Service Act to any one group of the citizenry. Further and different legislation is required for that. The responsibility for ascertaining the needs of the civilian population is definitely that of the Procurement and Assignment Service. As it is at present constituted this Service is not in a position to do more than recommend, and definitely is not able to deal with the financial and administrative problems involved.—*Rankin, South. M. J., Feb.* '43.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D.
State Health Officer in Charge

RABIES AMONG FOXES

Several weeks ago the State Health Officer and Conservation Director Albert Gill warned against the danger of an outbreak of rabies among foxes in this state. These warnings were inspired by the reporting of a number of cases of this kind a short distance beyond the Alabama-Georgia line.

Director Gill's statement urged that Alabamians, especially those living in the northeastern counties adjoining that part of Georgia where "unusual behavior by foxes" had been reported, be unusually careful when approaching a fox acting in such manner. He also recommended that dogs and livestock be protected against rabid foxes. The State Health Officer's warning was directed mainly at the protection of human life.

Through the DeKalb County Health Officer, the State Department of Health has received the reports of Hugh G. Forester, a special deputy with the Georgia Wildlife Commission and a resident of Head River, Ga., situated just a few miles beyond the Alabama line. These reports cover no less than 82 encounters with foxes known or believed to have been rabid. Some of them occurred in Alabama and others in Georgia. All occurred in an area only about ten miles long and from five to ten miles wide. And all occurred during the four-month period from August to November, 1942, inclusive. Practically all of them emphasize the "unusual behavior" mentioned in Director Gill's warning.

Mr. Forester himself participated in some of the encounters with rabid foxes which he described in his reports. He seems to have been personally acquainted, as a friend and neighbor, with most of the others whose lives and property were endangered by these rampaging reynards.

One dramatic adventure of this kind which he was able to report in detail from personal experience occurred in a mountainous district near the Georgia-Alabama line. After starting across the mountain without a gun, he heard "loud squalling noises" a short distance away. These he recognized as the wails of a rabid fox. Realizing his need of some form of self-protection, he armed himself with a stout hickory club.

"About 100 yards further up," he wrote, "I came in sight of the fox. It was staggering and blundering around sort of in circles. I stopped and watched it for two or three minutes. It fell over and started wallowing on the ground. I dashed up, thinking I could close in and kill it with my club while it was down, but while I was still about 20 feet away it got up and seemed to see me."

His description of that late-afternoon adventure continued:

"It started toward me, but I remembered what Dr. Griffin said about rabid dogs not charging if you stood still, so I don't think I moved an eyelash. I do think I remember pushing my hat down a time or two, as my hair was raising up so high. Well, the fox stopped and stared at me from about 12 feet away. He looked very sick, as after about 30 seconds he did not seem to pay any more attention to me but dropped his head downward and slowly closed his eyes. I took particular notice of his mouth, and there was some slobber, and most of the time the mouth was partly open. After doddering on his feet about a minute, he sort of woke up and let out that unearthly weird squall that is hard to describe and turned and went up the mountain side. I started out again behind him, and he did not get more than 50 yards until he fell over on his side and started wallowing, and again I tried to close in to club him, but again he got up and came toward me. I acted as before and he never did attack but came quite close, with a sort of inquiring, bewildered manner. About every minute he would let out a wild, weird shriek. We continued on in this manner for about three-quarters of a mile, or nearly to the top of the mountain. The fox's equilibrium was badly disturbed, as I watched him many times try to walk a fallen log, and he would only get a few feet before he would topple off on his side and wallow around before he could get up."

This careful following of the fox, interrupted more than a dozen times by a weak gesture of attack, was continued until the top of the mountain was reached. Finally Mr. Forester turned carefully to the left as the fox went in an easterly direction. As he scaled the cliff, he wrote, he "could still hear the fox squalling below."

On the night of last September 2 a resident of Dade County, Ga., adjoning DeKalb County, Ala., heard several noises around his barn and yard. Investigating, he could find nothing out of the ordinary except that his dogs were growling and barking. After trying without success to find out what they were barking at, he returned to bed. The following morning, however, he learned what had caused all the commotion. When he went to his barn lot, he found what appeared to be a very sick fox, which he killed with a shovel. Twenty-six days later one of the dogs went mad.

On the night of August 29 several children were playing checkers on the porch of a building used as a store. A bright light was burning nearby. One of the children dropped a rubber band and stepped off the porch to pick it up. As soon as he did so, a fox dashed up and took firm hold of the cuff of his overalls, which had been rolled up so as to make it easy for him to ride his bicycle. The startled child began fighting the fox, hitting it with his fist in an effort to drive it away. A finger struck one of the fox's teeth. Pasteur treatment was begun immediately. The fox escaped.

A sixteen-year-old child living on this side of the Alabama-Georgia line started to a pasture one afternoon to drive in the cows. Along the road he met a fox, which started toward him. He shot at it with a .22 rifle but missed. It kept coming, but he was able to keep it at a distance by kicking it and fighting it off with his rifle barrel. At last he managed to reload the rifle and took more careful aim, killing the fox.

Early in October two young children left home just after daylight to go to school. They had not gone very far along a country lane when they saw a fox lying on the edge of the road. Becoming frightened, they ran back home and told some older people what they had seen. The fox was found upon investigation to have died. According to Mr. Forester's report, "it had wallowed over a considerable space in the road during the night and then finally dragged itself to the edge of the road and died." This fox, incidentally, was the seventh to be seen on this particular farm.

A few days after this encounter members of a sawmill crew took some animals to a spring to water them. Upon arriving, they found a "very sick" fox in the spring branch. It was too sick to attack, Mr. Forester wrote, but "had wallowed all around." The men killed it with a stone, and the carcass was burned in the furnace under the sawmill boiler.

On October 13 a man was riding a mule along an old seldom used road when he saw an obviously sick fox, which approached to within ten feet of him and then stopped and stared. The fox was dripping saliva, its mouth was partly open, and it made "whining, choking noises" as it stared at him. Its attention was distracted by a noise, and the rider got away.

Another encounter between a rider and a supposedly rabid fox occurred a few days later, the rider in this case being a horseman. When he approached the fox, it refused to budge, and at a distance of just a few feet, charged the mare, attacking her viciously about the legs. The horse reared and started pawing and kicking at the fox. Then she bolted and ran, with the fox in close pursuit, trying to get at her legs all the time. After an exciting chase, the fox was sufficiently injured to be obliged to retire from the combat.

On October 16 a tenant farmer was awakened about midnight by what Mr. Forester called "a big disturbance" in his yard. Running out to investigate he found one of his hens "flopping around on the ground." As far as he could ascertain without a flashlight, there was no reason for the hen's unusual actions. However, when he picked her up, he found that a fox had a firm grip on her too. The farmer and the fox carried on a spirited tug-of-war, and finally the fox was shaken loose. Unfortunately, it escaped before it could be killed.

Early in November a married woman, alone in her home except for her three children, heard strange noises near her barn Taking a shotgun and flashlight, she went out into the yard to investigate. The fox's eyes shown brightly in the dark, and she used them as a target. But she missed it, and the fox plunged toward her in the dark-

ness. Fortunately, she kept her nerve and waited until she could take better aim before firing a second time. Her second shot was a good one, and the fox was killed.

On November 11, about noon, a seventy-year-old resident of Walker County, Ga., observed a fox "blundering crazily around" between his house and barn. In addition to his advanced age, this gentleman was a victim of rheumatism, which had made him virtually a cripple. Nevertheless, he "waded into the fox with his walking stick." The fox was about to get away when he called his son, at home on furlough, and the son, armed with a shotgun, took up the chase. The fox was killed and, upon being examined, "had all the appearance of being in the late stages of rabies." That, incidentally, was the ninth occasion in which foxes have been observed on that one farm.

The incidents that have been mentioned were chosen from the 82 described in the reports because they were somewhat different from the others. Those not described here include the finding of numerous dead foxes that are believed to have succumbed to rabies before having an opportunity to attack either humans or other animals. Others involved foxes seen from a safe distance as they made their way sluggishly along roads or through fields and woods.

Thus far the chief danger of contracting rabies from foxes, as far as Alabama is concerned, appears to be confined to a relatively small area near the Georgia line. However, it should be remembered that, as long as that danger exists even in a relatively small area at a considerable distance from the great majority of the state's population, our people as a whole are not entirely safe.

Because of increased demands for military requirements, methyl alcohol, or methanol, was placed under complete allocation, effective January 15, with the issuance by the Director General for Operations of General Preference Order M-31 as amended. According to the Office of War Information, there will be an apparent shortage for 1943 of about 10 million gallons, excluding the methanol from wood distillation, unless the use of methanol for unessential items is curtailed as rapidly as possible. The increase in demand is caused primarily by the requirements for formaldehyde to produce hexamethylenetetramine, an ingredient in explosives used by both the United States and Great Britain. It also is caused by increasing demands for methanol to be used in the manufacture of methyl methacrylate resins for military aircraft and by increasing demands for hexamethylene tetramine for Russia.—*J. A. M. A., Jan.* 30, '43.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

OCTOBER 1942

Examinations for diphtheria bacilli and Vincent's	1,608
Agglutination tests (typhoid, Brill's, undulant fever)	479
Typhoid cultures (blood, feces and urine)	899
Examinations for malaria	1,263
Examinations for intestinal parasites	1,692
Serologic tests for syphilis (blood and spinal fluid)	58,663
Darkfield examinations	42
Examinations for gonococci	2,386
Examinations for tubercle bacilli	1,751
Examinations for Negri bodies (microscopic)	42
Water examinations (bacteriologic)	932
Milk examinations	2,126
Pneumococcus	13
Miscellaneous	398
Total	72,463

* * *

NOVEMBER 1942

Examinations for diphtheria bacilli and Vincent's	1,298
Agglutination tests (typhoid, Brill's, undulant fever)	479
Typhoid cultures (blood, feces and urine)	960
Examinations for malaria	823
Examinations for intestinal parasites	1,634
Serologic tests for syphilis (blood and spinal fluid)	54,507
Darkfield examinations	32
Examinations for gonococci	1,945
Examinations for tubercle bacilli	1,819
Examinations for Negri bodies (microscopic)	39
Water examinations (bacteriologic)	932
Milk examinations	1,917
Pneumococcus	8
Miscellaneous	352
Total	66,750

Most people in the United States are not, as yet, well aware how greatly the technique of aerial warfare has been intensified in recent months. Today a city may be destroyed by an attack which lasts less than ten minutes, during which squadrons of planes drop large numbers of high explosive bombs and land mines, some weighing several thousand pounds, and capable of causing destruction of everything within a radius of one-half a mile or more. During the same brief time, more than 100,000 incendiary bombs may be dropped upon the stricken city.

In order to combat this type of attack with a reasonable measure of success, an organization comprising the entire citizenry is required. Let us not delay in developing adequate means for the defense of our cities against fire and destruction.—*Texas State J. Med., Jan.* '43.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

COMMUNICABLE DISEASES IN 1942

The number of cases of disease reported in Alabama during 1942 as compared to the number reported in 1941 and the median of the nine-year period, 1933-1941, is shown in the following table:

Disease	1942	1941	Median 1933-41
Typhoid fever	147	170	403
Typhus fever	380	299	341
Malaria	4,369	4,838	6,473
Undulant fever	70	45	48
Smallpox	10	9	42
Measles	3,740	9,817	4,529
Scarlet fever	1,133	1,176	879
Whooping cough	1,641	1,664	1,664
Diphtheria	607	729	1,063
Influenza	7,359	34,631	14,535
Mumps	1,569	2,731	1,000
Poliomyelitis	72	871	61
Encephalitis	10	16	25
Chickenpox	1,365	1,150	1,217
Tetanus	35	31	52
Tuberculosis	2,795	2,809	2,943
Tularemia	9	16	15
Pellagra	117	213	300
Meningitis	83	70	84
Pneumonia	3,535	4,075	4,075
Syphilis	19,270	21,919	16,132
Chancroid	329	152	87
Gonorrhea	7,327	5,066	3,714
Ophthalmia neonatorum	17	28	15
Cancer	1,937	1,902	

As a whole, the 1942 picture was very satisfactory. Not only did the state escape any major epidemics during the year but the incidence of most communicable diseases was below that of the preceding year and below the median of the preceding nine years.

Another all-time low was reached in typhoid fever, and the diphtheria record has been bettered on only one occasion. Poliomyelitis returned to normal incidence, and the state did not experience any major influenza epidemic during the year. Malaria also remained at a low level.

Whether the loss of physicians to the services has had any adverse influence on the reporting of communicable diseases is problematical. One would expect minor diseases to be treated at home more frequently but major illnesses are probably still seen by a physician. The favorable report of 1942 would seem to be a true gauge of actual incidence.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

THE SIGNIFICANCE OF WEIGHT DURING PREGNANCY

Contributed by
Eva F. Dodge, M. D.
Consultant in Maternal Health

It is necessary for the physician to take into consideration several factors when considering the significance of weight during pregnancy; namely, the weight of the woman for her height and age, her usual weight when not pregnant, and the rapidity of any gain in weight. Therefore, one important phase of antepartum care is the weighing of patients at each visit. Since rapid weight gain is so often sudden, and eclampsia is notoriously so, this is a further indication for frequent antepartum examinations and prompt action where abnormal weight increase appears. Some women will lose a varying number of pounds during the early months of pregnancy because they do not eat a sufficient amount of food. The normal pregnant woman who is able to eat a regular balanced diet will not lose weight during the early months of pregnancy nor should she gain over fifteen to twenty-five pounds during her whole pregnancy. This gain in weight should be evenly distributed over the last twenty to twenty-four weeks and at no time should she gain over a pound a week.

The pregnant woman whose weight was much below normal to start with will probably gain more during her pregnancy than the one who began her pregnancy at her ideal weight. Even so, she should not gain more than a pound a week. On the other hand the woman who was overweight to start with may not gain at all during pregnancy under proper dietary supervision.

A sudden increase in weight of more than a pound a week should be considered sufficiently abnormal to require giving the patient special instructions. On the one hand, this increase may be due to a diet predominating in starches and fats, an overindulgence in them, or their poor metabolism due to an inactive thyroid. On the other hand, it usually presents the first evidence of beginning toxemia. Occult edema is usually present before visable edema appears so where pitting edema occurs one may be sure

there is a considerable amount of occult edema present.

Many toxemias may be prevented if adequate treatment is started with the first signs, usually the sudden increase in weight of more than a pound a week. The physician should, in this case, not wait for other toxemic manifestations such as urinary albumin, edema, blood pressure rise, etc. Increased daily rest periods, adequate elimination, a decrease in carbohydrates and fats with an increase in vegetables, milk, eggs, and cheese, plus complete elimination of salt, salt meats and salt fats from the diet will usually produce a decrease in weight, or at worst its maintenance at the same level during the following week. The gain may then return to the one pound or less a week. In other words, a high protein together with a low fat and carbohydrate diet is indicated. If symptoms such as headache and dizziness have occurred before the sudden increase in weight has been recognized, these symptoms will usually disappear under this treatment. The patient should not take sodium bicarbonate during this time since it has the same effect as the taking of salt, the sodium radicle apparently being the important element.

If the sudden weight gain is due to a high carbohydrate diet, or overeating, the above treatment will give the same desired results. When the increase in weight is due to a decreased metabolism, it will be necessary to give the proper amount of thyroid extract.

Loss in weight during pregnancy may be due to lack of food, especially during the first three to four months of pregnancy. Usually, even with an inadequate food intake, there is no loss in weight during the last half of pregnancy. Decrease here may be due to a dead fetus or to diabetes, though the latter, while it does occur during pregnancy, is not common.

The recording of the weight of the antepartum patient at each visit on a graph which is made up for a pound a week increase will show the physician at a glance whether the patient is gaining too rapidly or following a normal course. If treatment is started at the time of the first sudden gain in weight many a toxemia will be prevented.

NEXT ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

THE PHOSPHATASE TEST FOR COMPLETENESS OF PASTEURIZATION

Franklin A. Clark, B. S., D. V. M.
Director
Division of Inspection

Health authorities agree that proper pasteurization of milk destroys all pathogenic bacteria which may be present and thus renders it safe. However, this statement can only be made for "properly" pasteurized milk.

For a long time a check of the recording thermometer charts was depended upon to determine whether milk was properly pasteurized. Observation and tests showed that these thermometers frequently became inaccurate. Indicating thermometers to be used daily by the operator for checking the accuracy of the recording thermometers were then required. Other checks showed that such things as offset outlet valves, leaky valves, foam on top of the milk, failure to agitate the milk during pasteurization, etc., also might contribute to under-pasteurization. Flush and leak protector valves, air heaters to break up foam on the milk, etc., then became required equipment. However, the human element as evidenced through ignorance, carelessness and intentional shortcuts, as well as equipment breakage, failures and defects continued to produce some milk not properly pasteurized.

Several years ago two Englishmen found that the enzyme phosphatase in milk was progressively inactivated by heat and that it was destroyed at all temperatures and time combinations of pasteurization which would kill *M. tuberculosis*. They also discovered that this enzyme would liberate free phenol from certain reagents when added to the milk, the amount liberated being directly proportional to the amount of the enzyme present. This phenol could then be titrated as a measure of the amount of phosphatase present. Thus it was found that testing milk for the presence, or rather absence, of this enzyme would reveal whether the milk had been pasteurized at a sufficiently high temperature for a sufficiently long time to kill *M. tuberculosis*, the most heat resistant milk pathogen, and render the milk safe. Since that time other workers have refined the test until it is quite sensi-

tive and reliable. When properly made, a positive phosphatase test practically always means that the milk has not been properly pasteurized, or that raw or improperly pasteurized milk has been added to the pasteurized milk.

The laboratory here has been making phosphatase tests approximately a year not only on pasteurized milk samples collected locally but on samples received by branch laboratories and forwarded by them to this laboratory, to work out a satisfactory technique and to determine whether it is practical to ship samples from the various branches which are not equipped for the test. The laboratory is now ready to report findings to this office from which they will be forwarded to the city of origin.

The technique employed here is such that phosphatase readings of 2 or less indicate proper pasteurization while readings above 2 indicate improper pasteurization, with the measure of inadequacy of pasteurization indicated as the figure rises. Thus a report showing a phosphatase reading of 1 plus or 2 indicates proper pasteurization; a reading of 3, slight under-pasteurization; and figures considerably above 2 such as 5, 7 or even 10 (which is the highest reading reported) increasingly gross under-pasteurization.

When a report on a phosphatase test indicating under-pasteurization is received by a county health department, it should first be used as an indication of need for a careful check on the pasteurization equipment and methods employed at the plant concerned. A high bacterial count does not show the source of the bacteria but does definitely indicate the need for a careful check and elimination of all possible causes. In the same way, a positive or high phosphatase reading indicates the immediate need for a thorough check of the pasteurization equipment and methods employed. Experience has shown that the following defects in equipment or methods most commonly cause under-pasteurization of milk, and thus positive phosphatase tests:

1. Failure to pasteurize at a sufficiently high temperature (143°F) for the full 30 minutes. If the recording thermometer is accurate, cutting the holding time can be detected by an examination of the charts except in the case of old recorders which do not have pins to puncture the chart and thus show fraudulent rotation.

2. Inaccurate thermometers. If the thermometers read too high, they may indicate pasteurization temperature although actually this is not being achieved. A special test thermometer which is known to be accurate should be provided for regular checking of pasteurization thermometers. These can be secured through the Division of Inspection but of course must be charged to the county purchasing them. The accuracy of the recording thermometer clock should also be checked since if it runs too fast it may indicate pasteurization for a sufficient time while actually this is not achieved. Cutting the holding time for even two minutes will result in a slight rise in the phosphatase reading as will lowering of the temperature as much as one degree below 143°F.

3. Short holding time. This may be due to the recording thermometer clock running too fast; intentional rotation of the recorder chart; or to deliberate withdrawal of part or all of the milk before the full 30 minutes holding time has been reached. The most common occurrence of this last is opening the outlet valve before the milk has been held a full 30 minutes but while the recording thermometer still shows pasteurization temperature. The recorder will continue to show pasteurization temperature until the milk level reaches the recorder bulb unless cold water is introduced into the jacket of the vat to lower the temperature. This occurrence is impossible to determine accurately from an examination of the recorder charts and can usually be verified only by truthful answers of the operator upon questioning or by observation of the inspector at the time it occurs.

4. Leaking inlet or outlet valves and valves not properly closed. Both inlet and outlet valves are required to be of the leak-protector type which will prevent milk leaking by them. If milk leaks by the inlet valve and a head of raw milk is maintained in this line, raw milk will continue to enter the vat during the holding time and result in a part of the milk not being properly pasteurized. If milk leaks by the outlet valve, some raw milk will leak by it during the filling and heating period and be held in the outlet line until the pasteurized milk is run through it. A simple test for leaking valves is to disconnect the milk line ahead of the valve when a milk head is being maintained. If milk runs out when the line is disconnect-

ed and continues to drip out later this is positive proof of valve leakage.

5. Addition of raw milk to the vat after the holding time is started. Perhaps the most common cause for this is standardizing milk in the vat by the addition of raw skim milk or cream after the bulk of the milk in the vat has reached pasteurization temperature. If much cold skim or cream is added it will cause a break or drop in the temperature line of the recording thermometer chart. Therefore any break in this line however small or short, should be regarded with grave suspicion when a positive phosphatase reading has been secured.

6. Failure to agitate the milk during the holding time. Especially in non-insulated or poorly insulated vats, if the milk is not agitated throughout the holding period, part of it will cool below pasteurization temperature.

7. Failure to operate the air heater properly. If foam is present and the air heater is not properly operated to break this up, the phosphatase test may show slight underpasteurization. Even in the absence of foam, if some raw milk adheres to the vat walls above the milk level or to the underside of the vat cover, it will not be heated unless the air heater is properly operated but will be washed back into the milk by condensation and thus may cause a slight rise in the phosphatase reading.

8. Failure to close the outlet valve before filling the vat thus in effect creating an offset valve by permitting raw milk to stand in the outlet line.

9. Running pasteurized milk through or into equipment which has had raw milk in it since it was thoroughly washed and disinfected. This may include piping, pumps, cooler, bottler, cans, and even bottles.

10. By-passing raw milk around the pasteurizing vat.

11. Intentional faults. These may include failure to pasteurize all or a part of the milk, cutting the holding time, addition of raw milk, skim milk or cream to pasteurized milk, rotation of the recorder chart while the milk is at pasteurization temperature, setting the recording thermometer to read high, failure to close valves, etc.

Immediately upon receipt of a positive phosphatase test, the inspector should make a thorough inspection of the plant concerned, preferably at the time of operation. He should not only observe carefully the methods employed, but should also check all thermometers to make sure they are accurate. The used recording thermometer charts should also be examined carefully for any irregularities in time and temperatures recorded, especially those used the day the under-pasteurized sample was run. Inaccurate thermometers should be reset so as to be accurate, or if this is impossible should be replaced with accurate ones. If any equipment or operational defect which might have caused the positive phosphatase reading is observed, prompt correction should be required. When all observed defects are corrected, another sample should be collected and sent to the laboratory for a check. If no defects are noted at the time of inspection this sample may be collected at that time. A notation written in red pencil or ink so as to stand out should be made on the sample tag requesting that the phosphatase test be run on this sample. In case this test is again positive further more thorough inspections and observations should be made until the cause is located. In case this inspection shows adequate equipment and the phosphatase test shows proper pasteurization, the operator and management should be informed of this and instructed to operate the equipment in the same manner in the future as was employed at the time of observation when the test was negative. The responsibility for repeated or frequent positive phosphatase findings after the inspector has definitely determined that they are not due to defective equipment should be placed directly with the plant operator and management since they are then the result of improper methods and failure to follow the instructions of the inspector.

A positive phosphatase reading is definite indication of improper pasteurization just as is a high bacterial count indicative of some slip in methods or handling. After an inspector has checked a plant's equipment and methods and determined through phosphatase checks that the equipment when operated in the manner directed will turn out milk with a negative reading, future tests showing frequent or repeated positive readings should be sufficient cause for degrading the plant, or even in proven flagrant cases cause for suspension of the permit just as in the case of frequent or repeated violations of other requirements.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1942

	Nov.	Estimated Expectancy Dec.	Dec.
Typhoid	5	4	14
Typhus	27	41	34
Malaria	157	118	167
Smallpox	0	0	1
Measles	10	10	129
Scarlet fever	139	108	109
Whooping cough	67	197	107
Diphtheria	93	51	111
Influenza	141	322	532
Mumps	26	22	49
Poliomyelitis	4	1	4
Encephalitis	2	0	1
Chickenpox	50	87	148
Tetanus	1	3	3
Tuberculosis	215	218	222
Pellagra	8	4	14
Meningitis	3	5	6
Pneumonia	255	286	398
Trachoma	0	0	0
Tularemia	1	1	0
Undulant fever	2	7	3
Dengue	0	0	0
Amebic dysentery	1	0	0
Cancer	164	159	0
Rabies—Human cases	0	0	0
Positive animal heads	12	9	0

*As reported by physicians and including deaths not reported as cases.

The Estimated Expectancy represents the median incidence of the past nine years.

BOOK ABSTRACTS AND REVIEWS

Civilian Health in Wartime. By Francis R. Dieuaide, M. D. Cloth. Price, $2.50. Pp. 328. Cambridge, Mass.: Harvard University Press, 1942.

This book contains ten chapters and an epilogue. It is intended to acquaint the general public with present health conditions and health implications in relation to the war. The reviewer would recommend the book to public health workers as it contains tables and factual information which would be valuable in preparing health talks.

The first chapter, "Health and the Impact of War Upon It," discusses health as a positive quality and gives concrete examples of the effect of previous wars on health. Chapters II and III deal with nutrition. The importance of food in the war effort is discussed at length. Recommendations for improving the diet of people are given with reasons for and against enriched bread. The recommended daily allowances for specific nutrients are given in table form. Chapter IV deals with safety from infectious diseases. Dr. Dieuaide states: "It is doubtful whether the hope, or even the conception of eradication, is justifiable in the light of our present knowledge. The control of disease is another matter, and the difference is of more than academic significance. This view should not be regarded as pessimistic since adequate control fulfills our social needs." He summarizes by stating that infectious diseases are not responsible for more than 15% of our mortality.

Principles and standards for good housing are discussed. In the chapter dealing with care of mother and child, the reviewer was impressed by this statement: "It is noteworthy that adequate hygienic and medical attention to the needs of mothers and children rapidly and certainly gives good results beyond those achieved in other fields. In many ways it is the most satisfying and most valuable of all health activities."

Chapter VII discusses the aging and the aged. It is pointed out that we need to know more about the process of aging and a section on geriatrics in the National Health Institute has been established for this purpose. Industrial health is discussed in Chapter VIII pointing out that the time lost from ordinary illness is estimated to be fifteen times that lost because of occupational disease and accidents. Chapter IX reviews the medical, hospital and nursing situation, discussing current trends and recommendations. Chapter X and the epilogue on mental calm and morale complete this interesting presentation.

Pearl Barclay.

New and Nonofficial Remedies, 1942, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1942. Cloth. Price, postpaid, $1.50. Pp. 671. Chicago: American Medical Association, 1942.

Perhaps the most important feature of this new volume of New and Nonofficial Remedies is the radical rearrangement it has undergone, which it is believed will make the contents more accessible and therefore more valuable to the physician or other interested readers. Heretofore, the classification of products has been basically that of chemical relationship. The new arrangement is primarily according to therapeutic use, chemical classification being introduced by means of subheadings. In addition, the typographic style has been changed so as to give greater prominence to the products of individual manufacturers. No valuable feature has been sacrificed. The book still fulfills its function of establishing chemical standards for new and nonofficial preparations which the Council has found to be useful or to give adequate promise of usefulness in the treatment or prevention of disease. Its function as a guide to the most recent advances in therapeutics has been greatly enhanced.

Careful examination of the general discussions under the various headings and subheadings shows that the Council has admirably performed its annual task of keeping the text abreast with the progress of medicine. The authoritative and compendious section of the sulfonamide derivatives is an outstanding example. So also is the chapter, Vitamins and Vitamin Preparations for Prophylactic and Therapeutic Use. Equally important though less extensive revisions have been

made in such sections as, Aluminum Compounds, Dextrose, Gonadotropic Substances, Liver and Stomach Preparations, Ovaries, Parathyroid, Pituitary, and Testes.

Among the newly accepted drugs are Acetyl-Beta-Methyl-Choline and the proprietary brand, Mecholyl Chloride, proposed for use by iontophoresis, orally and subcutaneously as a parasympathetic stimulant; Adrenal Cortex Extract for parenteral use in the treatment of Addison's disease or of adrenal insufficiency of other types as well as prophylactically in surgical procedures involving the adrenal cortex; Aluminum Hydroxide Gel with the proprietary brand, Creamalin, for oral use as an adjunct in the treatment of peptic (gastric and duodenal) ulcer; and Normal Human Serum and Normal Human Plasma.

Others worthy of mention are Cyclopropane, another general anesthetic, now included in the U. S. P.; Amylcaine Hydrochloride, another proprietary local anesthetic; and Pernoston Sodium, the sodium salt of the previously accepted proprietary barbital derivative, Pernoston.

The indices of the new volume of New and Nonofficial Remedies are of the same order and plan as in previous editions. A general index lists accepted articles, including those not described. This is followed by an index to distributors in which appear all the Council accepted articles listed under their respective manufacturers. Finally, a bibliographical index is added for listing proprietary and unofficial articles not included in N. N. R. This includes references to the Council publications concerning each such article as has appeared in The Journal of the A. M. A., Reports of the Council on Pharmacy and Chemistry, Propaganda for Reform, Vol. 1 and 2, or Reports of the A. M. A. Chemical Laboratory.

A. M. A.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1941. Cloth. Price, $1.00. Pp. 187. Chicago: American Medical Association, 1942.

The Council on Pharmacy and Chemistry recently issued the thirty-third edition of the Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association. This volume contains in compact form not only the reports of the Council which have been published in *The Journal* during the past year but also some additional reports which were not considered of sufficient importance to be published in *The Journal*. The reports may be divided into four classes: reports rejecting products as not being acceptable for inclusion in New and Nonofficial Remedies, reports omitting from New and Nonofficial Remedies products that have previously been accepted, reports on the nomenclature of various substances and reports in which the Council gives decisions of general interest or summarizes the latest scientific knowledge concerning certain topics. The last classification includes the largest number of reports. One article deals with the developments in bacteriophage therapy since the previous report of the Council in 1934. Other reports bring to the present day the status of such products as aluminum hydroxide preparations, antipneumococcic serums, cyclopropane, human blood plasma and serum, human convalescent poliomyelitis serum, human convalescent mumps serum and sulfadiazine. Such topics as ion transfer (iontophoresis), halogenated vegetable oils for bronchography, and the problem of lipid pneumonia and the sympathomimetic amines as epinephrine substitutes are discussed. The nomenclature reports deal for the most part with the Council's adoption of nonproprietary designations for comparatively new products such as diethylstilbestrol, menadione and sulfadiazine. Explanations are given for the omission at this time of products which have previously been included in New and Nonofficial Remedies. In most cases the N. N. R. description is included in the report as a matter of record. The volume also includes the reports rejecting various products—which have either been submitted by the manufacturer or considered on the Council's own initiative—and which have been found not acceptable for inclusion in New and Nonofficial Remedies. Also incorporated is a brief summary of the decisions arrived at by the Council at its latest meeting.

A. M. A.

Contraception and Fertility in the Southern Appalachians. By Gilbert Wheeler Beebe, Ph. D., Former Statistician, National Committee on Maternal Health; Research Associate, Milbank Memorial Fund. Published for the National Committee on Maternal Health, Inc. Cloth. Price, $2.50. Pp. 274. Baltimore: The Williams and Wilkins Company, 1942.

This book discusses the problem of the Southern Appalachian region from the standpoint of the basic economy of population growth and migration, patterns of consumption, and cultural characteristics in relation to the fertility problem of these areas. Fertility reduction would seem to be only one means of relieving the increasing pressure upon the standard of living. The findings from an intensive study of a sample of families given contraceptive advice in Logan County, West Virginia, during a three-year period are given in great detail. Policies of the organization of the study are discussed. One simple method was chosen. Complete histories were taken and follow-up visits made. Only women who showed interest in the program were given supplies.

It was found that about one-half of the families had sought to control conception before they entered the service. The younger couples predominated in this group. The reproductive patterns of the sample prior to admission to the contraceptive service showed that the high fertility was directly attributable to a lack of extensive efficient contraceptive practice. This study shows that there would be little hope for providing a control of conception which would be sufficient to depress fertility, though, if inefficient contraceptive practices were very extensive, it might accomplish this result.

A single method pressed upon patients with no alternative seems to have produced a lack of confidence as expressed by many patients. Only 36% were still using the method after two years.

It is felt that any contraceptive service should be a medical service whether therapeutic or not so that this service might be integrated with the general problems of the family. The official health agencies are the logical agencies to integrate an appropriate program among the depressed rural areas. This will not be possible on a large scale until more funds are provided for a more adequate public health service which can reach the rural population.

There is a wealth of valuable material in this book which should be carefully studied by those interested in the maternity problems as well as population trends.

Eva F. Dodge.

From Infancy Through Childhood. By Louis W. Sauer, M. D., Ph. D., Professor of Pediatrics, Northwestern University Medical School, Chicago. Cloth. Price, $2.50. Pp. 190, with illustrations and charts. New York and London: Harper Brothers, 1942.

This is a well prepared book written by a prominent pediatrician in terms easily understood by laymen for whom it is intended. It begins with the care of the mother and fetus during the prenatal days and carries the development of the child on up to pediatric limits. A readable description of the common diseases to which children may fall victims makes interesting reading for expectant parents. Emphasis is wisely put on the pediatric methods of disease prevention by proper feeding, vaccination, inoculation and periodic physical examinations.

Treatment is sidestepped with the appropriate suggestion of consulting professional advice which is one of the favorable comments on this book over its many similar predecessors.

Even though this book is well planned and nicely written, one still wonders why another book has been written on this subject when excellent similar books are being distributed free of charge by many prenatal clinics or by the government for the mere mailing of a postal card.

Philip K. Burwell.

When Doctors Are Rationed. By Dwight Anderson, Director of Public Relations, the Medical Society of the State of New York, and Margaret Baylous, Therapist, Charleston General Hospital, Charleston, West Virginia. With an introduction by Nathan B. Van Etten, M. D., F. A. C. P., D. P. H., Past President, American Medical Association. Cloth. Price, $2.00. Pp. 255. New York: Coward-McCann, Inc., 1942.

It has already become obvious that, along with a shortage of meats, gasoline, tires, sugar and canned goods, the war has brought a shortage of physicians, nurses, hospital attendants and dentists. As in the case of food products and the use of one's automobile, the time is approaching, if indeed it is not already here, when the American people will have to get along with a great deal less medical care than they have been accustomed to. How will they react to this disconcerting fact? Will most of them adjust themselves to it with the intelligence and adaptability of normal adults, or will they stiff-neckedly insist upon getting the medical care they want, regardless of the effect upon others? Will the doctor shortage bring epidemics like the influenza outbreak of 1918? Does national belt-tightening in medical care necessarily mean a lowering of national health standards? Must progress made in recent years in the conquest of man's great disease enemies be lost?

There are answers to these questions and many others of a similar nature in Mr. Anderson's and Miss Baylous's book. Fortunately, they are, on the whole, answers which speak well for the American ability to make adjustments to changed conditions. They also indicate that the sacrifices to be made need not be excessively arduous.

These authors make no attempt of course to hide from their readers the grim, uncompromising fact that the supply of doctors and other health-guardians has been greatly curtailed. They do not even pretend to be certain that there will not be an acute lack of medical care, as the term was understood in the relatively happy pre-Pearl Harbor days, before the lights come on again all over the world—in doctors' offices, hospitals and clinics, as well as in blacked-out cities—with the return of peace. But they bring the same kind of cheering assurance that the food producers and rationing experts have been bringing—that there should be enough for all, provided there is a fair distribution of the available supply and everybody is willing to do the best he can with what his share may happen to be.

Both the layman who reads this book and the physician, who may or may not read it, should benefit from Mr. Anderson's and Miss Baylous's labors, the layman-reader because he should be able to make the best possible use of the limited medical care still available and the doctor because the reader—thousands of readers, it is hoped—will have learned how to cooperate with him and thus make his own work easier.

How greatly the medical burden would be lightened, for instance, if millions of people would follow the excellent advice about selecting your doctor before you need him, write down his telephone number for quick use in an emergency, and perhaps even get to know him socially! And suppose everybody would make it a rule to visit his doctor in his office during office hours, instead of insisting upon a house call. And what if war workers and their families would obtain periodic physical examinations, which can be arranged at the doctors' convenience, and thus correct in a short time in its incipiency a condition which may require many hours of medical and nursing care and days or weeks of physical disability and absenteeism, if allowed to continue unchecked?

Considerable attention is given the matter of selecting a physician. The reader is advised to inquire about his standing in his profession, his educational preparation, his reputation for personal integrity, membership in county, state and national medical societies, and professional and non-professional honors, hospital affiliations, etc. before making a choice. He is also advised to consult a general practitioner even when he thinks his case calls for the services of a specialist, in order to obtain the general practitioner's advice regarding his need for a specialist and in the selection of a specialist if one is needed.

Doctors would do well to interest their patients and the general public in "When Doctors Are Rationed" and induce them to read it. If they cannot do that, they should use the information it contains in the preparation of talks to clubs and do everything else they can to get its message across to the men, women and children they are trying to serve under increasingly difficult conditions.

J. M. Gibson.

AMERICAN MEDICAL ASSOCIATION NEWS

FIND PUBLIC EDUCATION PROGRAM ON CANCER STILL IS INADEQUATE

REPORT ON FINDINGS IN STUDY OF THE CAUSES OF DELAY IN TREATMENT OF 155 PATIENTS IS PRESENTED BY THREE PHYSICIANS

The public education program on the cancer problem is still inadequate and ineffective, Charles R. Harms, M. D.; Jules A. Plaut, M. D., and Ashley W. Oughterson, M. D., New Haven, Conn., declare in The Journal of the American Medical Association for January 30 in a report of their study of the causes of delay in treatment of cancer in 155 patients.

It was found that only about one fourth of the patients had read about cancer and that all but 2 of these had obtained their information from newspapers and popular magazines. Only 2 admitted reading public health pamphlets.

"Delay in the diagnosis and treatment of cancer," the three physicians say, "is one of the most important factors in the failure to obtain better results by the methods of treatment now available. . ."

They interviewed 158 successive cancer patients as they were admitted to the New Haven Hospital or Tumor Clinic. Three patients came immediately to the hospital for emergency treatment, 1 because of intestinal obstruction and 2 because of hemorrhage.

"The definition of delay due either to the patient or to the physician," they explain, "must necessarily be arbitrary. It is also well known that the time required to recognize and diagnose a cancer which is visible on the exterior will be quite different from that on the interior of the body. . .

"Delay by the patient may be defined for purposes of discussion as having persistent symptoms for one month or longer before consulting a physician. Delay by the physician may also be arbitrarily defined as waiting for any period longer than three weeks after the patient is first seen during which a diagnosis may be established or a consultation requested. . ."

Eliminating the 3 patients who reported immediately for treatment the authors say that 85 patients, or 54.8 per cent, were responsible for the delay, while 27 physicians, or 17.4 per cent, were said to be responsible. Both the patient and the physician were responsible for the delay in 43 instances, or 27.8 per cent.

"The patient was found to be either wholly or in part responsible for the delay in 128 instances, or 82.6 per cent," the three physicians found. "All but 7 of the 128 patient delays (121, or 94.5 per cent) were initial delays. The other 7 did not follow the physician's advice in spite of his efforts. The problem, therefore, appears to be mainly the initial delay or the interval between the onset of symptoms and the first visit to the doctor. . ."

The causes for delay among the 158 patients were reported to be as follows: symptoms "not serious enough," 56.9 per cent; negligence, 11.3 per cent; no delay on the part of patient, 11.3 per cent; expense, 10.1 per cent; ignorance, 6.9 per cent; fear of cancer, 1.4 per cent; fear of doctors, 1.4 per cent; Christian science or other cult, 0.6 per cent.

Discussing these causes the authors say that "failure to attach sufficient importance to recognized signs and symptoms accounts for most of the delay. This is primarily an educational problem which is obviously not being met by present methods. The second most important factor defined as negligence may also in large part be corrected by proper education. The economic factor accounts for 10 per cent of the group. These patients recognized their symptoms for what they were, or at least as deserving medical care, but put off seeking medical attention because they did not know how to pay for it. It is noteworthy that fear of cancer plays a minor role.

"The effectiveness of an education problem can best be judged by the content of knowledge possessed by the group as well as its effectiveness in producing appropriate

action. The following general questions were asked in order to evaluate the information regarding cancer possessed by the group: How many patients with malignant tumors think of cancer as the cause of their complaints? Only 21, or 13 per cent, answered in the affirmative. Breast cancer was responsible for 13 of these. The median delay for patients who thought they had breast cancer was 3.25 months, while the median delay for all breast cancer was 6.5 months. This suggests that the delay could be halved if all patients were aware of the significance of their symptoms. It was also found that only 42, or 26 per cent, of the patients had read about cancer. Forty of the 42 readers had obtained their information from newspapers and popular magazines, while only 2 admitted reading public health pamphlets. Only 2, or 1.2 per cent, had ever heard a lecture on cancer, and both of these had been while attending National Hospital Day. Although the entire group seemed poorly informed regarding cancer, 80 per cent thought that cancer was curable and 91 per cent thought that treatment was urgent. . ."

As for the delay by the physician in making a diagnosis, the authors point out that this is important but explain that "the information on which these data are based was obtained chiefly from the patient, and it is likely that many of these patients did not cooperate by returning to their physicians for further study. For accurate information it would be necessary to interview both the patient and physician. . ."

PASTEURIZATION OF ALL DAIRY PRODUCTS ESSENTIAL IN CONTROL OF BRUCELLOSIS

Careful pasteurization of all dairy products is an essential safeguard against milk borne brucellosis (Malta or undulant fever), it is pointed out in The Journal of the American Medical Association for January 30 in a report on a milk borne epidemic of the disease in Marcus, Iowa. The report is presented by I. H. Borts, M. D., Iowa City; D. M. Harris, M. D., Le Mars, M. F. Joynt, M. D., Marcus; J. R. Jennings, B. A., and Carl F. Jordan, M. D., Des Moines.

From their findings the investigators also advise that hogs should not be permitted to run on the same lot with dairy cows and that prevention of the occurrence of brucellosis in human beings requires a continuing program and effective measure for the eradication of the disease among farm animals. The epidemic at Marcus, involving 77 persons, was caused by a strain of the organism causing brucellosis which was traced to a raw milk supply. It was found that hogs had been allowed to mingle freely in the same pasture with the dairy cows.

WARNS THAT OTHER EYE DISEASES MAY RESEMBLE NEARSIGHTEDNESS

THOSE WITH SUCH A CONDITION SHOULD OBTAIN TREATMENT AND NOT SIMPLY GET A PAIR OF GLASSES, DOCTOR SAYS IN HYGEIA

"The best interests of the public will be served if those who have disease of the eyes with apparent nearsightedness will have their disease discovered and treated and not simply get a pair of glasses," Daniel B. Kirby, M. D., New York, suggests in Hygeia, The Health Magazine for February.

Dr. Kirby points out that other disease conditions of the eye that are caused by such factors as dietary deficiency or undernourishment may resemble simple myopia (nearsightedness), and that the eye physician can readily tell the difference between cases. The presence or absence of local disease of the eye can be demonstrated and any connection with the condition of the body as a whole can be made known by the use of drops which dilate the pupils and permit the physician accurately to measure the focus and see the interior of the eye. "Nonmedical examiners," he says, "who are not permitted to use drops have used all sorts of propaganda against them, but the experience of physicians is that they are invaluable. The public should not be deceived.

"Certain children are born with faultily developed eyes—such as congenital (existing at or before birth) cataract; glaucoma, or hardened eyeball; scars of inflammations which existed before birth; failure of development of normal pigmented or colored cells, as in albinos, and defects caused by hemorrhage or pressure which occurred during birth. These children are apparently nearsighted, as are those also who develop scars from syphilis, gonorrhea, tuberculosis or other diseases in infancy or early childhood. . ."



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ALBERT F. BRAWNER, M. D. Department for Men
JAMES N. BRAWNER, JR., M. D., Department for Women

Miscellany

POSTWAR MEDICAL CARE PLANNING PROBLEMS DISCUSSED BY JOURNAL

SAYS ANY MEDICAL SERVICE TECHNIC DEVELOPED FOR THE UNITED STATES MUST BE ADAPTABLE TO MAINTENANCE OF AMERICAN DEMOCRACY

In an editorial on "Planning for Postwar Medical Care," The Journal of the American Medical Association for January 9 points out that any technic developed for medical service in this country must be adaptable to the maintenance of the American democracy. The Journal says:

"Probably few other groups have more interest in the problems concerned in planning for the postwar world than has the medical profession. Many surveys already indicate a general agreement that the provision of optimum health through the widest possible application of the principles of preventive medicine and the treatment of disease and through the best possible distribution of medical services are considered by most of those consulted to be among the first problems to be given consideration. Even satisfactory nutrition for those portions of the world which have already begun starving must in itself depend on medical diagnosis as to the nature of the malnutrition and the means to be followed for nutritional improvement. Few of the suggestions thus far made for constituting suitable agencies for the study and control of postwar problems have indicated the necessity for dependence on sound medical advice and administration. Such proposals as have come have been the fruit of considerations by economists and statesmen. In Great Britain a medical advisory commission for the minister of health has just been established; it includes the leaders of all the recognized national medical organizations together with Lord Dawson of Penn and Sir Thomas Horder, whose positions in relationship to medical care of the royal family are well known. One wonders why so many years have elapsed before the minister of health was given such assistance.

"The Beveridge report, which has been widely discussed editorially in many newspapers and periodicals in this country, has only recently become available for consideration. Its medical aspects are elucidated in

the correspondence from London in this issue of The Journal. Sir William Beveridge's recommendations are essentially an expansion of Britain's present system of social insurance involving a state paid medical service for all regardless of individual financial status. Medical planning is a function of a special committee of the British Medical Association; the Lancet has published a condensation of the report of an independent, anonymous planning group of some two hundred British physicians; separate proposals have also been made in England by the medical communist and other independent agencies. What will come of all these proposals is difficult to conjecture. Presumably all the plans and planning will be tossed into the parliamentary hopper, where any ultimate proposal will have to be subjected to the strainer of the financial considerations. Sir William Beveridge pointed out that his recommendations are concerned 'not with increasing the total wealth of the British people but with distributing whatever wealth is available.' Great Britain is still operating on deficit finance. As was pointed out by the Pittsburgh Press, there is little security in red ink. Wealth has to be created before it can be distributed.

"In the United States various agencies have been considering the problems of postwar planning. At a recent meeting of the Committee on War Participation of the American Medical Association President-Elect James E. Paullin called attention of the committee to the necessity for participation in planning and urged the establishment of some suitable special agencies in the American Medical Association for this purpose. These matters may well come before the House of Delegates at its next session.

"A special committee, including representatives of the Social Security Board, has made a preliminary report to the President, and another committee, appointed by the American Council on Public Affairs, has developed a statement on security as it relates, among other things, to health. These publications have apparently aroused but little public interest. We in this country are, of course, also concerned with the situation from a financial point of view. As the Pittsburgh Press pointed out, the United States government also is operating on deficit finance. 'Our public debt has just passed the 100 billion mark. . . . The social security taxes we have paid into the social se-

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curity fund have been lent to the government and have been spent. . . .'

"Various reports emanating from sources in Washington indicate that neither the Senate Committee on Finance nor any of the other agencies which might be concerned with these matters are inclined to expansion of social security legislation at this time. Nevertheless such considerations must come eventually. When they do come, the extent to which the Social Security Act covers the administration of preventive medicine and medical service will be a matter of utmost importance to the medical profession.

"Some fundamental concepts should be kept constantly before us. Most important is a realization that conditions in the United States are different from those in any other nation in the world. It would be the height of folly for us to approach this problem with the view that technics established as suitable in other nations would be equally suitable for us. The American democracy differs, even in its essentials, from the other great democracies. Any technic developed for medical service in this country should be adaptable to the maintenance of the American democracy. The nature and quality of



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medical service in the United States have always differed from those of other nations. The scale of living of the American people has been of a quality far superior to that generally available elsewhere in the world. Obviously any new technics that are developed for wider distribution of medical service should not contemplate a considerable depreciation of quality in order to attain wider distribution.

"The platform adopted by the American Medical Association urges the principle of local control with financial aid from state and federal sources as needed to accomplish the objectives that are sought. The soundness of this principle as it relates to the functioning of the American democracy cannot be questioned.

"Finally comes the principle of free choice. The very basis of the American democracy is free choice: free choice of the school one attends, the newspaper one reads, the church in which one worships, the store in which one makes one's purchases, the car in which one rides, the bank in which one keeps one's funds, the hospital in which one receives hospital care, the physician and the lawyer whom one consults. Careful reading of the Beveridge plan indicates that such considerations have not seemed particularly to be the concern of those who approach the problems of medical care wholly from a social or economic point of view. Unless medical care is approached primarily from the medical point of view, the result will inevitably be interference with the progress of medical science and depreciation of the quality of medical service."

SAYS NEW TYPE OF SKI EQUIPMENT IS NOT SUITABLE FOR USE BY ARMY

SUN VALLEY SURGEON FINDS IT FIXES THE FOOT TOO SECURELY TO SKI AND IS RESPONSIBLE FOR INCREASE IN NUMBER OF INJURIES

Although recent developments of ski equipment are aimed at making the foot and ski act as a unit and thus make for greater skill with a resulting perfection of a new style of skiing, such equipment has been responsible for an increase in the number of injuries and should be frowned on when skiing is used as a means of transportation such as with mountain troops now being trained by the United States Army, John R. Moritz, M. D., Sun Valley, Idaho, declares in The Journal of the American Medical Association for January 9.

Dr. Moritz, in a statistical and analytic study of ski injuries at Sun Valley for a three year period ending last May, says that the subject of ski injuries is pertinent now "in view of the increased interest and participation in skiing. Considering the fact that the United States Army is engaged in the training of ski troops, there is additional practical interest in the type of injury which may be anticipated. . . . It is noted that approximately 75 per cent of the ski injuries reported [in his study] are the result of torsion strain. Translated into terms of disability, this represents over 90 per cent. Consequently, any modification of skiing which will tend to decrease the application of torsion strain to the leg will reduce the number of injuries which are now being sustained. A review of the evolution of ski equipment shows that there has been a progressive tendency to approach a state in which the foot and ski act as a unit. The only noteworthy motion of the foot on the ski is a hingelike action of a few degrees. When the ski point becomes fixed in heavy snow, the foot also becomes fixed. Consequently the weight of the body going forward makes it necessary for something to give, and it is usually the lower extremity. This development in the type of ski binding now used has made for greater skill in racing and greater control in making turns and has permitted the perfection of a new style of skiing. However, there can be no question that it has been responsible for an increase in the number of torsion-strain injuries. To return to a 'safe' binding which would allow the foot to become disengaged from the ski when severe torsion strain is applied would reduce this group of injuries to a minimum. Such a suggestion will never be accepted by those who ski for the thrill of accomplishing the most that can be obtained from the sport and who are willing to pay the price of injury and disability when it comes.

"However, when skiing is studied as a means of transportation, as is the case when the mountain troops are concerned in the United States Army, a severely sprained ankle or a fractured leg is of considerable practical importance."

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ENDOMETRIOSIS

By
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Cullen described his first case of adenomyoma of the uterus in 1895. The following year Von Recklinhausen published his work on the origin of adenomyomata and cystadenomata of the uterus from the wolffian system. In 1896 Cullen described adenoma of the round ligament, and in succeeding years he was able to find similar lesions in numerous other locations including the umbilicus, rectovaginal septum, ovary, uterine and ovarian ligaments, rectus muscle, fallopian tube and sigmoid colon. Sampson's brilliant work appeared in 1921, and in succeeding articles he added a new idea of the origin of the lesions. Since that time the literature has contained articles on the subject too numerous to mention. Tubal regurgitation had been described by Minard in 1888 but the connection between endometriosis and back flow of menstrual fluid was apparently not appreciated until the work of Sampson.

Many names have been used to designate this lesion, some twenty-nine different terms having been noted in the literature. Those more commonly met include endometriosis, endometrioma, adenomyoma, and chocolate cyst of the ovary. Endometriosis may be used in a general sense: endometrioma for discrete implantations; adenomyoma for the uterine lesions, and chocolate cyst for those implants on the ovary which have attained a large size and are filled with the familiar syrupy, chocolate-like material. All, however, apparently have a similar origin.

Several theories have been offered to explain the origin of this tissue which so closely resembles, and apparently is, uterine mucosa. Von Recklinhausen suggested the origin from derivatives of the wolffian system. Cullen sought to explain its origin from mullerian derivatives, the uterine type arising as extensions from the mucosa into the myometrium and other types from embryonic mullerian relics. The theory of Iwanoff assumed its origin by a metaplasia of the peritoneal mesothelium under the influence of inflammatory stimuli. Closely related to this idea was that of general epithelial metaplasia as proposed by Robert Meyer. The flat epithelium becomes cylindrical in type, from which tubular structures proliferate. The implantation and transplantation theory of Sampson has given further support to the mullerian origin. This idea of implantation of regurgitated bits of endometrium through the tubes best explains the endometrial lesions found in the extra-uterine and extra-pelvic sites. It offers an explanation for the origin of the lesions found in scars following cesarean section and other pelvic operations. Experimental evidence in favor of the idea has been given in the growth of bits of endometrium scattered over the peritoneum of rabbits as reported by Jacobsen. Fraser reported a case of ectopically placed endometrial tissue in a monkey, the first non-experimental case in a lower animal in the literature as far as the author has been able to determine. Sampson further suggested that endometrial tissue might metastasize through lymph channels. Halban thought endometrial particles might escape into the myometrium and thus reach the superficial subserosal lymphatics of the uterus and later the round ligaments, inguinal lymph nodes, umbilicus and laparotomy scars. Sampson also suggested the embolic dissemination of endometrial particles by way of venous sinuses and veins. Such emboli have not been found in the lung but the

soil here is considered unsuitable, hence the cells do not grow.

In advanced endometriosis there are many dense adhesions, the pelvic viscera being bound together into one conglomerate mass, with nodules or cysts scattered about the surface of the organs, on the parietal peritoneum and even invading the viscera. These adhesions are rather typical of the condition and differ markedly from the relatively easily separable adhesions of inflammatory disease. They may however be so dense as to suggest carcinoma. Usually one or both ovaries are at least partially replaced by a cystic structure containing the syrupy, chocolate-like material. At times the ovaries may be at least grossly free of the lesion. Not infrequently the uterine peritoneum and other areas of peritoneum may be studded with small nodules, some of which may present the bluish discoloration due to contained old blood. This type of lesion may be confused with tuberculosis, particularly if the nodules are not discolored. The appearance of less advanced endometriosis may be much less characteristic. However, if a cyst filled with chocolate material is found on an ovary, endometriosis is the likely diagnosis.

Hosoi divides the lesions into two chief types: those resembling endometrium and reproducing this tissue to which the term endometriosis is applied, and those arising from the mucosa of the tubes, which structure is faithfully reproduced. This latter lesion he called endosalpingosis. The former lesions are obviously more common. These ectopic endometrial lesions actively participate in the menstrual phenomena of congestion and proliferation, hemorrhage and exfoliation, since they are under the influence of the ovarian hormones just as the normally placed tissue. When pregnancy intervenes the stroma of these ectopic foci is said to take on decidual characteristics. A case observed by the author during pregnancy did not show palpable increase in size of a mass of endometrial tissue in the rectovaginal septum. These lesions are invasive but are not malignant in the usual sense of the word. They invade such structures as the bladder and colon, may be responsible for perforation, and are not unlikely to be mistaken for carcinoma, particularly in the cases in which an organ such as the colon is involved without demonstrable ovarian involvement. Endometrial tissue rarely becomes malignant in these ectopic sites but cases are on record.

The lesions have been noted in various locations and this fact accounts for the manifold symptoms. They have been noted in the uterus, ovary, cul-de-sac, rectovaginal septum, uterovesical space and round ligament; as implantations on the visceral and parietal peritoneum, and in such extra-pelvic sites as the inguinal canal, labia, umbilicus, abdominal wall and the intestinal tract.

As regards incidence Sampson states that endometriosis is found in 10 to 20 per cent of women between thirty years of age and the menopause who require abdominal operation for pelvic disease. This is certainly a conservative figure. The condition is often seen in women in the twenties, and a case is reported in a woman 85 years of age. One wonders if this may not have been associated with a tumor producing the follicular hormone although this was not mentioned. It occurs in virgins as well as non-virgins. It is much more common in white women than in colored.

Symptoms vary according to the pathology and varied distribution of the lesions. Dysmenorrhea of the acquired type is a common complaint. Pain unassociated with menstruation may be complained of, and may simulate chronic pelvic inflammatory disease. The pain often radiates down the leg. It may be severe and may be due to hemorrhage and subsequent distension of the ovarian hematoma, to the associated pelvic adhesions and to involvement of contiguous structures. These thin-walled cysts may rupture and simulate a ruptured tubal pregnancy, acute appendicitis, ureteral stone, acute peritonitis, torsion of the pedicle of an ovarian cyst, etc. Various disturbances in the menstrual functions may occur and this is probably the most common symptom. Vicarious menstruation, particularly from the rectum, may occur. In those cases in which the bladder is involved, urinary complaints may dominate the picture. Many patients complain of sterility. As a matter of fact, few patients with endometriosis ever become pregnant, and if pregnancy does occur even fewer go to term. Interruption of the pregnancy usually occurs in the first trimester. It is to be remembered, however,

that endometriosis may occur after a woman has already borne children.

On bimanual examination, in the advanced case, one feels the so-called frozen pelvis with the masses so conglomerate that individual structures are often indistinguishable. Tenderness is usually quite marked, particularly if manipulation of the uterus is attempted. The patient may run a low grade fever. In the less advanced cases one or more masses may be felt. One or both ovaries may be cystic, or the mass may be in the cul-de-sac or even in the rectovaginal septum only. The latter lesions may be missed entirely if rectal examination is not done. Examination with one finger in the rectum and another in the vagina will often yield valuable information. The uterus may or may not be enlarged depending on whether or not it has been invaded by the lesion. Occasionally one or more small bluish cysts may be seen in the vaginal wall and the diagnosis becomes evident.

The diagnosis is often not made even after the abdomen is opened, chronic pelvic inflammatory disease being most commonly confused. According to Sampson only about 50% of cases are diagnosed preoperatively. Other lesions to be differentiated include various types of ovarian cysts, especially the hemorrhagic cyst, broad ligament tumors, and, not to be forgotten, uterine fibroids or even retroversion of the uterus. In certain cases the gross appearance is very much that of numerous tubercles studding the peritoneal covering of the pelvic viscera. In extensive cases uterine carcinoma may be confused. In the cases in which bowel involvement is present, malignancy may be simulated and even impossible to differentiate by gross observation. This may also be true when an endometrioma of the bladder is present. Ewing emphasized the fact that the clinical picture is of much importance in guiding the surgeon and pathologist in making a diagnosis.

Treatment of the condition is surgical or by radiation. It is rare that the diagnosis can be definitely made preoperatively and consequently radiation is generally reserved for secondary treatment. It is very difficult to make positive statements in regard to treatment since each case must be considered on its own merits. The disease is cured by removal of the ovaries but this seems too radical and disabling in many cases. If the patient is near menopause this is the ideal treatment, and in younger patients it may sometimes be necessary. If the lesions are large and are invading vital structures like the bowel or bladder, very little else can be done. Likewise, in bilateral chocolate cysts of the ovaries their complete removal is usually required. But if only one ovary is involved the writer cannot agree that the other ovary should necessarily be removed. If one ovary is involved and there are implants on the peritoneum, removal of the involved ovary and destruction of the implants with the diathermy spark are often adequate. Even if the rectovaginal septum contains an implant and only one ovary is diseased, bilateral oophorectomy should not necessarily be done. The conservative operation may be done and radiation given later if symptoms require it. In the meantime the patient has been spared the disagreeable symptoms of a premature menopause. This interval of freedom may last several years. The writer has seen a case in which pregnancy occurred a few months after a conservative operation as advocated. This pregnancy terminated successfully in spite of the presence of a large implant in the rectovaginal septum. Hysterectomy is not indicated unless the uterus is directly involved. It is not unusual to see adenomyoma of the uterus without ovarian involvement. In these cases there is no reason for removal of the ovaries if the uterus itself can be completely removed. Oftentimes, however, the uterus is so firmly adherent to the sigmoid colon or other pelvic structure that it is impossible to remove the lesion, and in such cases it is wise to remove the ovaries, without running the risk of doing damage to the adherent structures.

A few cases have been reported in which the lesions have not regressed after presumed bilateral oophorectomy. This must often be due to having left some ovarian tissue which is an easy matter when one recalls the conglomerate masses often encountered. The mass may not entirely disappear but it usually becomes clinically inactive after ovarian destruction.

Treatment of endometriosis by a partial or complete castration dose of x-ray, in the author's opinion, should be reserved entirely for the secondary case; that is, one in which

a previous conservative operation has been done, or possibly in the occasional case in which operation is not practical for some reason and in which the diagnosis seems certain. Only those cases in which the endometriomata are visible can be positively diagnosed preoperatively. Surgery should be given the opportunity to cure the disease, and possibly to save some ovarian function. Radiation in endometriosis has its chief place, therefore, in recurrent cases or cases with persistent symptoms after a conservative operation.

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Coronary Occlusion—There is no justification for the belief that coronary occlusion alone constitutes total permanent disability, even though its complications and sequelae may do so. All too frequently patients who have made complete recoveries are confronted with the difficulty of returning to their former jobs, after myocardial infarction, because of the restrictions imposed by employers' liability under workmen's compensation laws. It has been suggested that those so affected should, in fairness to themselves and their employers, sign waivers removing liability for subsequent cardiac illness. This would overcome some of the present obstacles to the restitution of many persons with coronary artery disease. By the same token fully recovered patients should not be certified as totally and permanently disabled in order that they may take advantage of disability insurance, unless a gradual and conscientious effort to restore them to activity has failed.—*Stone, New Orleans M. & S. J., Jan.* '43.

PROGRESS IN PEDIATRICS

WITH SPECIAL CONSIDERATION OF THE NEWER SULFONAMIDE DRUGS

By

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New Orleans

Pediatrics is a comparatively modern branch of medicine. Its development has been rapid within the past twenty-five to thirty years. There is mention of some of the diseases found in infancy and childhood in medical literature written in ancient times; for instance, Hippocrates is said to have made some two hundred references to the sick child in his writings, but no known physician devoted his study and work exclusively to the study of the child and the childhood diseases before the middle of the nineteenth century. The organization of a special pediatric section of the American Medical Association at its 31st annual meeting in 1880 and the organization of the American Pediatric Society in 1888 gave this specialty "a more scientific basis than it had hitherto enjoyed, and gave direction to the cooperative efforts of pediatrists to advance their specialty." It has been said that it was not considered necessary to teach it as a special subject in medical college until 1899 when in London a physician was appointed to treat children only and to teach this subject to medical students at King's College. It has been estimated that in 1908 there were about 50 pediatricians in the United States. Today, there are approximately 4,500. The American Board of Pediatrics has certified 1,831 candidates to date. This Board was organized for the following purposes:

a. To establish and maintain the highest possible standards for pediatric education in medical schools and hospitals, pediatric practice and research;

b. To perpetuate the history and best traditions of pediatric practice and ethics;

c. To maintain the dignity and efficiency of pediatric practice in its relationship to public welfare; and

d. To promote publications and encourage contributions of medical and scientific literature pertaining to pediatrics—none of which objects are for pecuniary profit.

Progress in pediatrics has been especially marked in our increased knowledge concerning:

Read before the Association in annual session, Montgomery, April 21, 1942.

1. The growth and development of the child.
2. Nutritional requirements of infants and children.
3. The importance of maintaining an adequate fluid and electrolyte balance.
4. Preventive pediatrics.
5. The use of chemotherapy.

Of these we shall consider the progress of chemotherapy in pediatrics. This is not a new method of treatment. Ehrlich's work dates the beginning of modern chemotherapy. He first tried the effect of synthetic dyes on trypanosome infections in animals. But a real mark in medical history was made when he prepared salvarsan in 1910 which was found to be specific for the spirochete. It is said that Gelma in 1908 prepared sulfonamide, but no consideration was given to its chemotherapeutic qualities at that time. Domagk, for the first time twenty-seven years later, tried the therapeutic qualities of a sulfonamide red dye called prontosil on mice and found that it protected them from hemolytic streptococcic infections. This work was confirmed by Levaditi and his workers. The first report to my knowledge of the use of the prontosil dyes and sulfanilamide in this country was made by Long and Bliss. Many sulfonamide drugs have been reported since that time, some of which have been discarded. The ones which we shall briefly consider are sulfanilamide, sulfapyridine, sulfathiazole, sulfadiazine and sulfaguanidine.

Sulfanilamide, one of the first sulfonamide drugs to be used, still has a definite place in medicine. Sulfanilamide absorption and excretion are rather rapid and for this reason it is necessary to give the drug every four hours to maintain a constant level in the blood. After a single dose its maximal concentration in the blood stream is reached in about four hours. The concentration then drops rapidly until it is almost eliminated at the end of 16 hours. The drug is excreted almost entirely by the kidneys. If kidney function is impaired, its excretion is inhibited and therefore the blood level becomes elevated. It is excreted in the free and conjugated forms in about equal amounts. A damaged kidney can excrete it in bactericidal concentrations. It has been used successfully in patients with a blood urea greater than 50 mgm. per cent. It takes two or three days to establish equilibrium between the amount ingested and the amount excreted. It passes into the cerebrospinal fluid and the body exudates and transudates at a level of from 10 to 25 per cent lower than in the blood. The conditions in children where it has been found effective are:

1. Beta hemolytic streptococcic infections, such as respiratory infections and complications—otitis media, mastoiditis, streptococcic sore throats, pneumonia, and meningitis.
 Septicemia.
 Erysipelas.
 Cellulitis.
 Scarlet fever.
 Puerperal fever.
2. Meningococcic infections.
3. Gonococcic infections.
4. E. coli.
5. Clostridium welchii infections.
6. Trachoma.
7. Subacute bacterial endocarditis.
8. Actinomycosis.
9. Brucellosis.
10. Influenzal and virus meningitis.

Its effectiveness as a prophylactic against rheumatic fever is questionable.

Sulfanilamide is specific for beta hemolytic streptococcic infections. It does not seem to affect the toxicity of scarlet fever but apparently tends to reduce the number of complications. At one time the case fatality rate for erysipelas was 80 per cent or more under the first month of life, about 50 per cent in the first year, and 15 to 30 per cent in the first two years but since the use of sulfanilamide the mortality rate even in patients under one year of age has been as low as 5 per cent in some reported series. In infections of the urinary tract it is not effective with Streptococcus fecalis. Sterilization of the blood stream in subacute bacterial endocarditis has been reported. In intra-abdominal application following an operation for appendicitis, Thompson et al. report the use of sulfanilamide crystals sprinkled directly into the peritoneal cavity in adults and children for peritonitis. They seem to feel good results were obtained. However, Taylor has recently questioned the advisability of using the sulfonamide drugs in any wound that is "sealed," on the basis that "all common sulfonamide drugs are irritant to tissues when placed in them in powdered form." Adhe-

sions may result from their use and they may "give the surgeon a false sense of security to the detriment of sound surgical judgment." Thomas, France and Reichsman gave sulfanilamide (1.2 gm. daily from November through June) as a prophylactic against rheumatic fever to 55 patients who had a history of recently having had acute rheumatic fever and used as a control 67 patients who gave a similar history. They observed no serious toxic effects. However, there were some mild cutaneous eruptions. The slight leukopenia noted was of short duration and of no apparent clinical significance. The results were:

1. None of the patients while taking sulfanilamide had a major attack of acute rheumatic fever or an acute beta hemolytic streptococcic infection. Fifteen major attacks of acute rheumatic fever developed among patients not taking sulfanilamide. One of the patients who was not taking the sulfanilamide during the summer months had another attack during August.
2. Pharyngeal cultures showed a lower percentage of organisms and those positive for beta hemolytic streptococcus were found less frequently among those taking the sulfanilamide.
3. An acute beta hemolytic streptococcic infection caused one of the control group to be hospitalized.
4. Subacute bacterial endocarditis developed in two control patients.
5. Four deaths occurred in the control group: one from acute rheumatic fever and two from subacute bacterial endocarditis. The cause of death of the fourth one was uncertain.
6. No deaths occurred in the treated group.

They believed sulfanilamide to be of some value in preventing reoccurrences of acute rheumatic fever.

The amount of sulfanilamide given is 1 to 1½ grains per pound of body weight per 24 hours. The maximum dose for a child is usually considered 4 to 5 gm. The total calculated amount is divided into six doses and given every four hours with the exception of the initial dose which is one-half the calculated amount for the 24 hours. The blood concentration should be determined in 24 hours and once a day thereafter. An effort should be made to maintain a blood concentration of 10 to 15 mg. per cent in severe infections and 4 to 10 mg. per cent in mild conditions. In pyuria, the urinary concentration should be 100 to 400 mg. per cent, and enough alkali given to keep the urine alkaline. Parenteral administration of subcutaneous injections of 0.8 per cent sterile sulfanilamide may be given if the patient is unable to take it orally. Saline cathartics or any drugs which tend to cause the development of sulfhemoglobinemia should not be given during sulfanilamide therapy.

Sulfapyridine is absorbed fairly rapidly from the gastro-intestinal tract, but not as rapidly or in such constant amounts as sulfanilamide. It is excreted in both the free and acetylated forms almost entirely by the kidneys, but it is not excreted as rapidly as sulfanilamide. It has been reported to be excreted in 24 hours after a single dose, but some (Long and Feinstone) have found the excretion may continue three or four days after a single dose. Sulfapyridine is effective in:

1. Pneumococcic infections—all types.
2. Gonococcic infections.
3. Streptococcic infections.
4. Meningococcic infections.
5. B. coli and,
6. To a certain extent in staphylococcic infections.

The dosage of sulfapyridine and manner of administration are the same as for sulfanilamide. The dosage should be such that a concentration of 3 to 5 mg. per cent will be maintained in the blood stream. Adequate fluids must be given. If it cannot be tolerated by mouth, then sodium sulfapyridine in comparable doses of 5 per cent solution may be given intravenously. Alkalis, such as sodium bicarbonate, should be given to keep the urine alkaline in order to prevent the formation of acetylsulfapyridine crystals.

Sulfathiazole has been found effective in the treatment of pneumococcic and staphylococcic infections, bacillary dysentery, Streptococcus fecalis, Proteus ammoniae, Aerobacter aerogenes, E. coli, and Pseudomonas aerugenosa. Comparing it with sulfapyridine, it is believed to be:

1. Less conjugated after absorption so that a higher percentage of the total drug in the body fluids is chemotherapeutically active.
2. Absorbed more uniformly.
3. More effective against the staphylococcus.
4. Less apt to cause serious nausea or provoke vomiting.
5. Excreted more rapidly so probably can be given over a longer period of time than

sulfapyridine and it is found in relatively lower concentrations in the spinal fluid.

The usual 24 hour dose is from 1 to 1½ grains per pound of body weight divided into six doses and given at four-hour intervals. More may be given in severe staphylococcic infections. One-half of the calculated 24-hour dose may be given as the initial dose. Three to six mg. per cent of the free drug in the blood stream is considered an adequate concentration during treatment of pneumonia. The urine must be kept alkaline to help prevent the formation of acetylsulfathiazole crystals in the kidney tubule.

Sulfathiazole should be given in pneumonia until the patient's temperature has been normal for 36 to 48 hours. In very severe staphylococcic infectious, after the temperature has been normal for 48 to 72 hours, the dosage may be cut to two-thirds the previous level for another two weeks.

In the treatment of pneumonia, it has been felt that sulfathiazole compares favorably with sulfapyridine. It seems to cause less nausea and vomiting. In Stoesser and Mooney's report it was felt that the most disturbing feature was a decrease in the polymorphonuclear blood cells. However, the white blood cells returned to normal when the drug was decreased. Wooley reports two cases which had been treated for pneumonia with sulfathiazole but developed a meningitis as a secondary complication: one child died soon after admission to the hospital; in the other child, even though the blood sample showed he had 7 mg. per cent of sulfathiazole, the spinal fluid had a concentration of only one mg. per cent. This experience makes one wonder what might have been the outcome of these cases had they been given sulfapyridine or sulfadiazine which would have reached a higher concentration in the spinal fluid.

Donovan has reported a case of Staphylococcus aureus meningitis in an infant seven months old which recovered after oral and intravenous administration of large amounts of sulfathiazole and its sodium salt. In 32 days the total amount administered was 101.85 gm. It is believed that the best method to use in the treatment of staphylococcic meningitis is repeated doses *intravenously* every 6 to 8 hours. In treating staphylococcic infections the optimal concentration in the blood is 5 to 8 mg. per cc.

Good results have been reported from the use of sulfathiazole in bacillary dysentery. Taylor (Duke University) reports its use in a small series of cases. Thirteen were treated with sulfathiazole and 14 were used as controls. Otherwise the treatment was the same for both groups. They were treated with sulfathiazole "in the initial dose of 1 gm. per year of age up to the maximum of 3 gm. followed by the same daily amount divided into 6 doses." The stools became of normal color and consistency in 3.2 days in the sulfathiazole treated group, whereas it was 15.6 days in the control group. Ravenel and Smith reported a series of cases treated with sulfapyridine and sulfathaizole. The dosage was 1½ to 2 gr. per pound of body weight for the first day and from 1 to 1½ gr. per pound for each 24 hours thereafter. The administration was usually stopped in 4 to 6 days by which time the stools were usually normal. Sulfapyridine produced slight vomiting in some cases and marked restlessness in a few. In addition to the administration of the drugs, the patients were given a preliminary starvation period and adequate fluids. Food and vitamins were started as early as possible. The babies were able to take food early. The authors felt that these drugs had revolutionized the treatment of these cases.

Hurst and Astrowe report an interesting case of nonhemolytic streptococcus, omphalitis, parotitis and meningitis in a premature infant. The source of infection was the mother and the portal of entry was the umbilical cord. The infant was treated with sulfathiazole until the onset of the meningitis when sulfapyridine was started. Because of vomiting, the sodium salt of sulfapyridine, 2 per cent solution in distilled water, was given by rectum. "The initial dose was 20 cc. (6.2 gr.), followed by 8 cc. (2.5 gr.) every four hours . . . After thirty-two hours, it was decided to resort to oral medication because of rectal irritation manifested by slight diarrhea. This consisted of 2½ gr. of sulfapyridine every four hours." This medication was continued by mouth every four hours until the 20th day of the illness, six days after the temperature returned to normal. Then the dose was gradually decreased until none was given six days later. The authors feel that "this case demonstrates the superiority of sulfapyridine over

sulfathiazole in the treatment of newborn infants with severe infections other than those caused by staphylococci."

It is now felt that a newer sulfonamide drug, *sulfadiazine*, synthetized by Robins and his co-workers has at least the therapeutic effects of sulfapyridine and sulfathiazole, and the toxic manifestations are less frequent.

Peterson, Strauss, Taylor and Finland made a very interesting report on the absorption, excretion and distribution of sulfadiazine in March, 1941. They found that maximum blood levels were attained immediately after the intravenous injections, 2 to 3 hours after the subcutaneous doses, and 4 to 6 hours after the oral ones. Higher levels were reached in the blood and were sustained longer than with sulfanilamide, sulfapyridine or sulfathiazole. Moderate levels were found after 12 hours and appreciable levels at 24 hours. Traces were still detected at 48 hours. The maximum concentrations in the urine were found soon after the maximum blood levels. "About 60 per cent of the administered drug was recovered from the urine in the first 24 hours and about 75 per cent was recovered in 72 hours."

Rectal administration to five subjects showed that very little of the drug was absorbed. "Less than 4 per cent of the drug was recovered from the urine and about 50 per cent was recovered unaltered in the first stool passed 36 hours after administration. When 5 Gm. of sodium sulfadiazine was given rectally as a one per cent solution in physiologic sodium chloride, maximum blood levels of 1.6 to 2.8 mg. per 100 cc.. were reached, but less than 15 per cent was recovered from the urine."

They (Peterson, Strauss, Taylor, and Finland) found that "only small proportions of the total concentration of the drug were found in the blood in conjugated form and, in most subjects, from 20 to 35 per cent of the total amount administered was recovered from the urine in this form." In many subjects they found that the proportion of the conjugated drug did not show a steady increase and seemed to be excreted more rapidly than the free form. Sulfadiazine, like sulfathiazole, is found in greater concentration in plasma than in the red blood cells, whereas there is a more uniform distribution of sulfanilamide and sulfapyridine between the plasma and red cells. This drug reaches high concentrations in the spinal fluid. It averages two-thirds or more of the corresponding blood levels. In this respect, it is similar to sulfapyridine and sulfanilamide. However that is not true with sulfathiazole, with which drug the spinal fluid concentrations are only about one-third of the corresponding blood levels. Findings at autopsy showed that sulfadiazine was distributed throughout the body. The levels in pleural and pericardial fluids approximated the blood more closely than the spinal fluid. The amount in the brain was one-third to one-half the amounts found in the blood. The kidney in one case contained more than twice the blood levels found in sulfapyridine and sulfathiazole treated cases, but in three cases it was about the same as that found in the sulfanilamide treated cases.

Sulfadiazine maintains a higher concentration in the blood than any one of the other sulfonamide drugs. In their report, Peterson, Strauss, Taylor and Finland state that the drug had been given to more than 100 patients and no severe toxic effects noted. Mental depression and gastro-intestinal symptoms had been notably absent. In very ill patients marked subjective improvement preceded fallen temperature and pulse rate.

In June 1941, Finland, Strauss and Peterson gave a report of the treatment of 446 patients with sulfadiazine and gave their therapeutic evaluation of the drug. They felt that the drug was highly effective in the treatment of the following diseases:

Pneumococcic, staphylococcic and streptococcic pneumonia.

Meningococcic and gonococcic infections.

Acute infections of the upper respiratory tract, including sinsuitis.

Erysipelas.

Acute infections of the urinary tract, particularly those associated with Escherichia coli bacilluria.

In chronic conditions where it was not effective, they found that the other sulfonamide drugs likewise were ineffective. They believe that, "in general, sulfadiazine appeared to be as effective as sulfapyridine or sulfathiazole in every condition in which it was used." The toxic manifestations were few and not severe. "Sodium sulfadiazine

in physiologic solution of sodium chloride was used for the initial dose in some of the most severe cases. No untoward local or systemic effects were noted from its administration in concentrations of 1 to 5 per cent of the drug intravenously or 0.5 per cent subcutaneously.

The dosage for infants under six months of age is 7.5 grains initially, and 3.25 grains every 6 hours thereafter; for those from six months to three years, 15 grains as an initial dose and 7.5 grains every six hours. The dosage for children from three to ten years of age is 30 grains initially, and 15 grains every six hours.

Dingle and his co-workers have reported the treatment of meningococcic meningitis and meningococcemia with sulfadiazine. Twelve of the 13 cases of meningitis recovered. One died within 12 hours after admission and had had only 7 Gm. of sulfadiazine. The blood level of this case which was determined shortly before death reached only 2.8 mg. (free and total), and the cerebrospinal fluid showed only a slight trace of the drug. Their conclusions were that sulfapyridine and sulfadiazine were about equally effective against the meningococcus but sulfadiazine was less toxic.

Pickrell et al. have reported the use of sulfadiazine in "A New Treatment for Burns." They started using this treatment of burns at Johns Hopkins Hospital in August of 1941. The burned areas are sprayed with 3 per cent sulfadiazine in 8 per cent triethanolamine, using an atomizer. The blebs and loose tissues are debrided with care and aseptic technic. When necessary, the patient is placed in a fracture bed and heat cradle used, the temperature of the cradle not to exceed 90 degrees. They spray the burned areas every hour during the first day, every two hours the second, every three the third, and every four hours the fourth day. The edges of the eschar begin to loosen and to separate from the intact epithelium after about ten days, at which time compresses of the sulfadiazine-triethamolamine mixture can be applied. Ambulatory cases are sprayed with this solution and then sterile vaseline gauze of 5 per cent sulfadiazine and 8 per cent triethanolamine in a stearin basis is applied. Toxicity was noted only in one case, a four-year-old child with second and third degree burns covering 80 per cent of the body surface. Because of the results obtained with this solution they are continuing to use this method of treatment of all burns at the Johns Hopkins Hospital.

Sulfadiazine has been used in urinary tract infections and gonorrhea, and as a prophylactic against postoperative infections and has been found effective, but more experience must be had with this drug before it can be hailed as a panacea.

In September 1940, Marshall and his co-workers published an experimental study on *sulfaguanidine*. They investigated its toxicity in mice, rabbits and dogs. They found it fairly soluble in water, but poorly absorbed from the intestinal tract. It passed into the spinal fluid slowly, but rapidly penetrated the tissues with the exception of the brain. It was less effective against a beta hemolytic streptococcic infection in mice than sulfanilamide but as effective against a pneumococcus infection as sulfapyridine. In January 1941, Marshall and his associates published the results of treating acute bacillary dysentery in children. They were able to give it in dosage sufficient to insure saturation of the intestinal contents with the drug but at the same time maintain a low concentration in the blood. The dosage recommended is as follows: initially by mouth, ¾ gr. per pound of body weight; for maintenance—⅜ gr. per pound every four hours until the number of stools per day is four or less, then ¾ gr. per pound every 8 hours for at least three days.

Lyons reported a series of 23 cases treated with sulfaguanidine. Twenty-three patients with the same disease and similar severity were used as controls, no chemotherapy being resorted to. He found the drug effective, and especially so if given within the first four to seven days of the disease. In March 1942, Hall reported a series of thirty dysentery cases in Kentucky. Fifteen were treated with sulfaguanidine and the other fifteen were used as controls. He gave the same dosage as that recommended by Marshall. The average blood concentration was 2.3 mg. per cent of the free drug. The same supportive measures, such as adequate fluid intake, correction of acidosis, high vitamin intake and diet were used in both groups. Very few toxic effects were noted. Nausea occurred in two instances: one patient had a very severe headache, and unilateral con-

junctivitis developed on the third day of therapy in one of the typhoid patients. No rash or drug fever was noted. His conclusions were: "Sulfaguanidine is an effective chemotherapeutic agent in the treatment of acute bacillary dysentery. It is most effective when administered in the first few days of the disease." Sulfaguanidine has been used in typhoid fever patients. The results on the few cases have not been so promising. However it is believed it may be of some value as far as typhoid carriers are concerned. When it is not possible to watch the blood picture as carefully as should be done, sulfaguanidine may prove to be the safer drug inasmuch as it may be given to patients in amounts to insure saturation of the intestinal contents sufficiently with the drug to be effective as far as the infection is concerned and yet maintain a low concentration in the blood.

The administration of the sulfonamides is not without danger. The toxic manifestations are cyanosis, nausea and vomiting, toxic hepatitis, acute hemolytic anemia, leukopenia, agranulocytosis, drug fever, skin eruptions; headache, vertigo, malaise, mental depression and confusion; and renal complications such as oliguria, hematuria, nephromegaly and drug crystals. Children are believed to be more susceptible to renal complications than adults. A complete blood count and urinalysis should be made before sulfonamide drugs are administered, and daily during the time that they are being given. When possible, the blood concentration should be checked daily. Before any one of the drugs is ordered, one should first inquire as to whether or not the patient received one of the drugs previously and if there was any reaction.

Cyanosis may be relieved by the administration of methylene blue, gr. 1/4 to gr. 1/2 per pound of body weight orally or 1 to 2 mg. (gr. 1/120-1/60) per pound (in 1 per cent solution) intravenously. Cyanosis alone is not often an indication to stop the drug. Nausea, vomiting and weakness are usually not severe enough to cause one to cease the administration of the drug. If jaundice, drug fever, acute hemolytic anemia, agranulocytosis, oliguria, hematuria, paresthesia or neuritis occur, stop the drug immediately. Skin eruptions may occur two to nine days after the drug is started. If so, give very cautiously or stop therapy. If jaundice is noted, force fluids and give a diet rich in carbohydrate. Calcium gluconate intravenously has been recommended. If hematuria, oliguria or drug crystals are found, force fluids and see that the urine is alkaline. If necessary, give hypertonic solutions of dextrose. Fluids should be forced for many days after the kidney function appears to be normal.

Windsor and Burch recommend ureteral catheterization promptly and state that "the catheter should be allowed to remain in place until a normal volume of urine flow is reestablished. The pelves should be irrigated at two hour intervals with warm (107° F) distilled water."

Acute hemolytic anemia may occur within 1 to 7 days. Fluids should be forced and transfusions given. Agranulocytosis usually occurs after 14 days. This is often fatal. Should it occur, fluids should be forced, and blood transfusions and pentonucleotide given. Unless marked, the drug need not be stopped for symptoms such as headache, vertigo, malaise and mental apathy. Nicotinic acid (10 to 50 mg. every 6 to 8 hours) seems to alleviate these symptoms.

We have tried to give briefly a resume' of the progress that has been made in the use of the sulfonamide drugs. Let it be said in closing that chemotherapy has a definite place in the practice of pediatrics, but the drugs should not be given needlessly and without caution. When the need arises for the use of one of the sulfonamide drugs, consideration must be given as to which drug is most indicated. Give the drug early and at regular intervals in sufficiently large amounts to be effective. Watch the patient carefully for any toxic manifestations and treat accordingly.

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THE RECOGNITION AND OBSTETRICAL SIGNIFICANCE OF CONTRACTED PELVES

By

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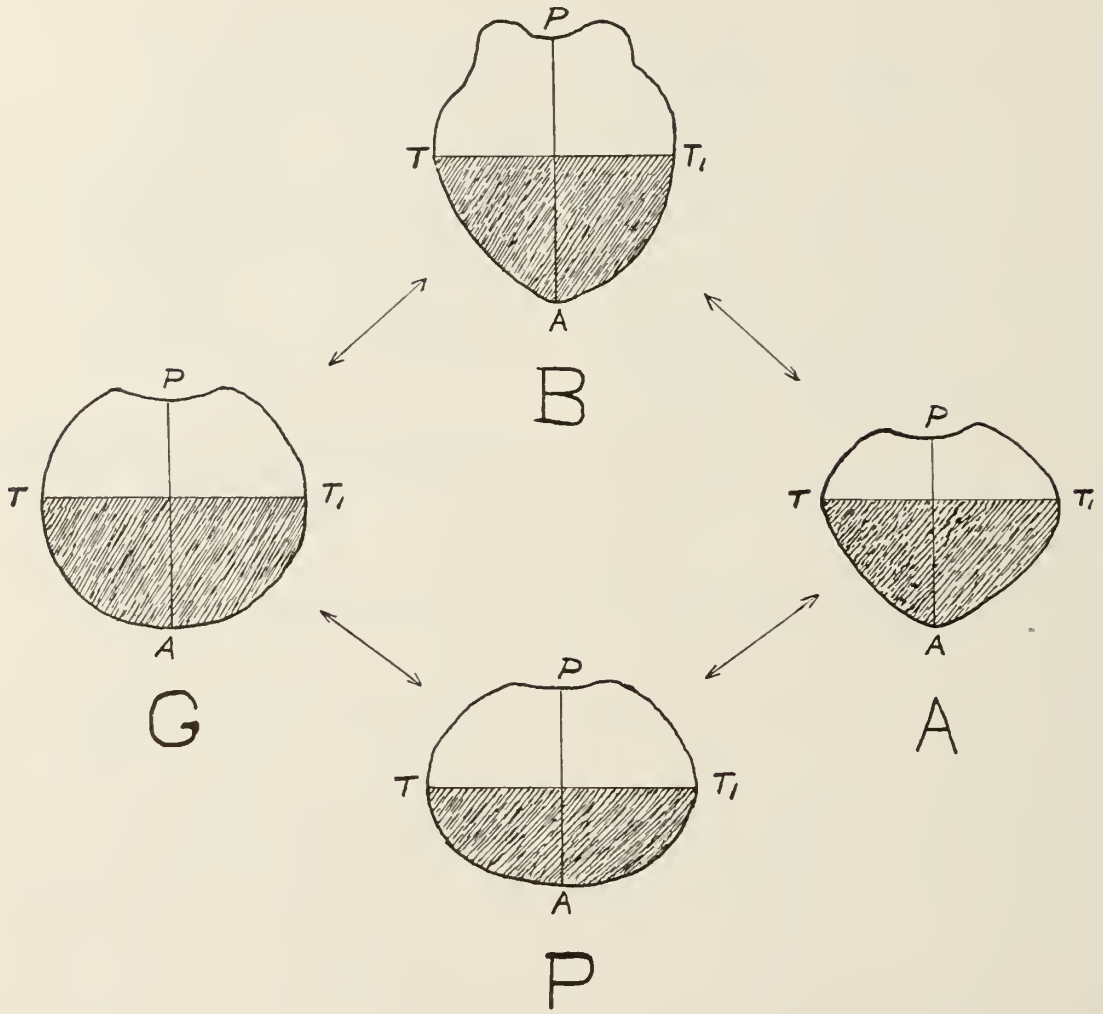
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Since dystocia is a problem that often confronts the obstetrician, it is a subject that merits frequent discussion. Dystocia is a synonym for difficult labor, but it may mean impossible labor if the efforts of nature are not supplemented by scientific assistance at the proper moment. A common cause of dystocia is cephalopelvic disproportion. Disproportion means one of two things—a maternal bony pelvis too small to permit passage of a normal fetal head or a fetal head too large to traverse successfully a normal maternal pelvis. If such rarities as hydrocephalus and other fetal monstrosities are excluded, there remains only pelves so abnormally formed to hinder or prevent passage of the normal fetal head. The problem of contracted pelves is a vital one to all of us who practice obstetrics.

Pelvimetry means mensuration of the bony pelvis. During the past decades we have attempted to predict the probable course of labor by an estimation of pelvic capacity based upon measurements between various arbitrarily chosen anatomical pelvic landmarks. These measurements, obtained by the use of caliper-like instruments known as pelvimeters, were made the basis of our deductions regarding both pelvic capacity and classification.

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Figure 1



The sketch above is a simplified reproduction of pelvic inlets of the four pure types of Caldwell and Moloy. Many pelves show mixed forms. Measurements and morphology of both anterior and posterior segments of the inlet determine the classification. For details of methods and typical measurements, the reader is referred to current literature.

G.—The gynecoid pelvis which exhibits the normal characteristics and measurements of the average female pelvis.

A.—The android pelvis, male type, with inlet roughly triangular and encroached upon by a forward jutting sacral promontory. There is a short posterior and narrow anterior segment of these inlets. Pubic rami are thick and heavy and outlet arch is usually narrow.

B.—The anthropoid pelvis, ape type, with long antero-posterior and narrow transverse of both inlet and outlet.

P.—The platypelloid pelvis, flat type, with short antero-posterior of the inlet.

(Note that the diagonal conjugate (antero-posterior of inlet) in the android pelvis may appear adequate by digital measurement and not reveal this dangerous type of pelvis.)

(A-P—antero-posterior T-T_1—transverse)

To all who have followed current obstetrical literature, it is quite apparent that revolutionary changes in our concepts of pelvic capacity are taking place. X-ray studies already reported clearly indicate that present methods of pelvimetry should be drastically revised.

A practitioner of obstetrics may utilize only those facilities which are available to him. If x-ray facilities are extensive, if the services of a mathematically inclined roentgenologist are accessible, and if funds are not limited, x-ray evaluation of the maternal bony pelvis may yield valuable predelivery information. However, if facilities are limited, as they usually are, use of "head and

hands" common clinical judgment becomes all the more essential.

Of what practical significance are the recent x-ray studies? The average obstetrician will admit that reliable clinical assistance from x-ray pelvimetry lies largely in the realm of the future. The study of x-ray pelvimetry should continue because valuable information has already been derived from it, but until a simplified and standardized course of procedure is universally adopted and large series of cases from different sources are reported for comparison, x-ray pelvimetry will have narrow limitations.

With omission of details concerning the various methods of different investigators and the complicated mathematical calculations involved, it is now possible to measure and classify pelves according to the original morphological classification of Caldwell and Moloy. Antero-posterior and lateral plates are necessary, and by means of a centimeter rule instead of a grid plate actual measurements of various diameters at different pelvic planes are possible with the precision stereoscope and the distorted isometric scale. Classification and quantitative estimations are both determined. These are based upon the pelvis as a whole and not just upon inlet.

A summary of these pelves reveals the following clinical features (figure 1):

Gynecoid: Normal female pelvis, unusually small forms (justo-minor and generally contracted) are the only significant forms.

Android: Dangerous form—engagement often in occiput posterior position because of narrow anterior segment of inlet—midpelvic arrest common because of general convergence of pelvic walls at midpelvis and outlet levels—outlet contractions the rule.

Anthropoid: because of short transverse, engagement often delayed and must occur in antero-posterior diameter—if an occiput posterior position, later attempts at forcep rotation at lower pelvic levels may be impossible and delivery must be as a posterior —aftercoming head in breech and version should come down in antero-posterior and not oblique.

Platypelloid: Head must engage in transverse of inlet—usual parietal bone mechanism for flat pelvis—if later rotation is necessary it must not be attempted until head is on perineum so that occiput may escape into subpubic angle.

Some such method will probably became the scientific means of future pelvimetry. At present the methods are neither perfected, universally recognized nor widely available. Until some future date, the ordinary methods of external pelvimetry will remain the only ones for the average practitioner. This method, even with its now recognized faults and fallacies, may still give us valuable information.

Manual pelvimetry is relatively simple. The external measurements of the false pelvis, namely the interspinous, intercristal and intertrochanteric, are all measured directly with a pelvimeter. The external conjugate, measured from just beneath the last lumbar vertebra posteriorily to the anterior surface of the symphysis pubis, is likewise directly measured. The true conjugate, the antero-posterior of the inlet, is estimated by measuring digitally the distance between the inferior margin of the symphysis pubis to the sacral promontory and deducting two centimeters from this diagonal conjugate measurement. In most cases this gives us the smallest diameter of the pelvic inlet (anthropoid pelvis an exception). The transverse, smallest diameter of the pelvic outlet, is measured directly between the ischial tuberosities. Posterior sagittal of outlet becomes quite important if transverse of outlet is contracted.

In funnel pelves all measurements are normal except the transverse of the outlet. Any value here of less than 8 centimeters represents a contraction. Usually this type of pelvis does not offer insuperable difficulties. In this type of pelvis the posterior sagittal of outlet becomes important because little of the outlet anterior segment can be utilized due to narrow pubic arch, and compensation must be found in the posterior portion of the outlet. Persistent occiput posteriors and deep transverse arrests are quite common in funnel pelves, thus giving rise to prolonged first and second stages of labor. Outlet forceps and episiotomy are frequently necessary.

In simple flat pelves all measurements are normal except the antero-posterior of the inlet. Normally the true conjugate should measure at least 10 centimeters. Any measurement of less than 10 centimeters, with

other measurements normal, indicates a simple flat pelvis. This type causes much uncertainty in prognosis. We hesitate to resort to an unnecessary cesarean section, yet some patients in this group will require this operation. For purposes of discussion, simple flat pelves may be divided into three groups: the absolute contractions with inlets of 7.5 or less, the slightly contracted ones with inlets of 9-10, and the borderline group with inlets of 8-9. Elective section is indicated in the first group. Of the second group, 80 per cent will deliver themselves, and most of the other 20 per cent may be successfully delivered by forceps or version. Induction of labor merits some consideration in this slightly contracted group. The borderline group presents the most uncertainties. Induction, other than medical, is probably unwise here for two reasons. The insertion of foreign bodies into such a uterus will eliminate any chance for safe section later should the baby prove larger than our prelabor estimation. If the baby is not as mature as estimated, a long labor and difficult delivery may not be withstood by the premature infant. One logical policy with this group would be a spontaneous onset of labor followed by a test of labor if head was unengaged. No vaginal examinations would be done and future course would depend upon evident progress or lack of it. If, after effacement was complete and cervical dilatation was progressing, the combined recto-abdominal maneuver showed that a fair segment of the fetal head could not be forced into the true pelvis, a low cervical type of section could still be done. If descent were evident or probable, labor could be allowed to continue.

FIGURE 2

REPRESENTATIVE MEASUREMENTS OF VARIOUS TYPES OF PELVES

	Spines	Crests	Troch.	Ext. Conj.	C. V.	Tubers.
Normal	26	28	32	21	10½	8
Simple Flat	26	28	32	18—	10—	8
Funnel	26	28	32	21	10½	8—
Generally Contr.	21	23	28	18—	10—	8—
Gen. Contr. Rachitic	22	21½	28	18—	9—	8—
Flat Rachitic	26	26½	34	18—	9—	10

There is no unanimity of opinion as to just what constitutes a safe test of labor. Factors to be considered include the condition and parity of the mother, the quality and regularity of the uterine contractions, the effacement and dilatation of the cervix, the degree of descent of the presenting part, the nature and position of the presenting part, extent of molding in vertex presentations, status of the membranes, and the nature of the fetal heart tones. No hard and fast rule will cover any and every contingency. Obstetrical judgment will decide when to wait and when to interfere.

Generally contracted pelves are occasionally encountered and the same general remarks for simple flat pelves also hold true in this group, except that an inlet contraction of 8-9 will be of a much more serious nature than a similar contraction in a simple flat pelvis.

Rachitic pelves of the flat and generally contracted varieties are rare. They represent major contractions and usually require section.

Coxalgic pelves, with ankylosis of one hip, should all be x-rayed because manual pelvimetry will give no possible knowledge of the extent of inlet encroachment caused by a pounding in on the sound side. Many apparently impossible cases of this type deliver from below.

True dwarf pelves usually require section.

Neglected cases of cephalopelvic disproportion which have been subjected to prolonged labors, many vaginal examinations and attempts at delivery from below are very poor risks for any type of cesarean section. While low cervical section is the operation of choice following a test of labor, even this operation cannot be performed with impunity in this group of patients. Mortality studies here in Alabama will verify this statement. Delivery should probably be accomplished by forceps, version or craniotomy. In this type of case, the life of a mother should take precedence over that of a child whose sanity and survival may be quite doubtful.

The administration of a vitamin K to the mother in labor and to the newborn child is now widely practiced. Cases of possible cephalopelvic disproportion should surely have this additional vascular protection for the child.

It appears fitting to close this discussion with one further statement. The paramount question in any case of cephalopelvic disproportion is whether a given fetal head will successfully pass through a given maternal pelvis. The pelvis is thus just one-half of the equation. Both passage and passenger must be considered and carefully evaluated.

SUMMARY

1. The early recognition of a deformed maternal pelvis is an essential part of adequate prenatal care.

2. X-ray pelvimetry is now being studied, standardized and evaluated. The average roentgenologist and obstetrician are hardly competent to measure and to evaluate when authorities differ so as to methods and interpretation. Simplification and uniformity will eventually arrive. For most of us, x-ray pelvimetry is the method of the future and not the present. Supplementary and valuable information may now be derived from x-ray methods, but positive decisions based upon present x-ray predictions must have narrow limitations.

3. Manual pelvimetry, even with its now apparent faults and fallacies, may still be quite informative for most of us.

4. Labor behaviors of patients with various types of pelvic contractions is discussed.

5. Clinical judgment is still of paramount importance in evaluating any problem of cephalopelvic disproportion.

Norwood Clinic

Casualties on the Home Front—"What shall it profit a man if he gain the whole world and lose his own soul," is not the idle patter of a religious fanatic. Nations like individuals have a soul. It is a source of inner strength. When it is lost there is nothing else that can take its place.

We all feel that a discussion of things pertaining to the soul rightfully belongs in the field of religion. That is true. On the other hand, they are so essential to our individual and national well being that they warrant serious consideration, not only by doctors, but by all thinking men in every community. This is especially so in times of crisis.

A world revolution is at hand. A new social order is being born. There can be no question that some of the things we cherished will be lost forever. Many more can be lost if physicians fail to lift their heads from the sands of purely professional matters and think they are doing their whole duty when they attempt to heal only bodies when the spirit is broken.—*Davis, Virginia M. Monthly, February* '43.

COSMETICS

By
H. R. COGBURN, M. D.
Mobile, Alabama

Cosmetics are probably here to stay. If so, it is a responsibility of the medical profession, and more particularly of the dermatologist, to aid in making them safe for use. It is felt that the public would lend its support to the profession if it knew the dangers from the use of harmful cosmetic preparations; and it is believed that the profession should lend encouragement to those manufacturers who have avoided the use of harmful ingredients in their preparations.

The word cosmetic comes from the Greek word *kosmos*, meaning ornament. The use of cosmetics has come down to us from the Egyptians and the Arabs. The Egyptian girls used red and white clay for make-up, and they dyed their finger- and toe-nails with henna. The eyelashes were dyed black and a perfume was sprinkled upon their hair. Mummies found in Egypt show traces of henna and gold on the nails. The Jews learned cosmetics from the Egyptians. They adopted at first only salves and perfumes for religious purposes, but later they used them for self adornment. The Romans had creams for softening their skin, dyes and colored powder to lend fashionable color to the hair, and many perfumes.

The great French physicians in the Middle Ages were deeply interested in cosmetics. Henri de Mondeville, who lived in the beginning of the fourteenth century, and who was physician to Philip the Fair, wrote a treatise on surgery. In the latter part of his work he says: "I am now going to touch on another chapter of cosmetics only superficially. It is a chapter on a subject which goes against the will of God and of justice and as a general thing it is not a treatment of any disease. Its object is to deceive and to conceal. Besides I take no pleasure in handling this side of the question. However, should a physician in a province or city where there live wealthy ladies who have a right to appear at court, and should he have a reputation of a man handling his art with dexterity, he might be able to turn this to his advantage and to obtain the favor of the ladies without the protection of whom it is impossible to obtain anything or to be liked

by the families of whom one is treating. Therefore, one seeks their favor more than they do Divine or Papal good will."

De Mondeville mentions a few cosmetic preparations used in his day and they are as ridiculous as the claims made by some of the present-day manufacturers. For example, to prevent wrinkles, applications of the juice of the grape-vine root with an addition of honey were recommended.

A poet of the Middle Ages says to God in one of his lines: "Women will not cease to paint themselves until you give them beauty, lasting until death. Or, until you let all coloring material disappear from the earth."

About 1760 the pendulum began to swing back to nature. Hair was no longer powdered and very little powder was used on the face. During the close of the eighteenth century Parisian women had given up the use of cosmetics. It is probable that in those days and that to this day France is and has been the champion of cosmetics among the nations of the world. The literature would seem to indicate that cosmetics never made the profound impression on the people of that day in England and Germany as was the case in other nations.

In our own country from the days of the Pilgrims to the early part of the twentieth century cosmetics were frowned upon. Some of us remember the days of our mothers and grandmothers and yet if we reflect for a moment I dare say that none can remember the use of rouge on lip or cheek. Cosmetics were left largely to the courtesan.

What a change there has been in the last fifteen or twenty years. One might fix the date of the excessive use of cosmetics in our day with the beginning of World War I. A woman of today is almost conspicuous if cosmetics are absent in her make-up. The Department of Commerce statistics show that in 1879 we had in the United States 67 establishments doing an annual business of more than $500.00 using cosmetics, and the cost of their material totaled $1,201,409.00. In 1925 the cost of material in places doing business in excess of $500.00 annually was $125,065,000.00.

Since cosmetics will be used it may be well for physicians to know the constituents of some that are harmless and yet will satisfy the users. Here are some satisfactory formulae:

Cold Cream

Almond oil	550 cc.
White wax	150 grams
Borax	10 grams
Water	290 cc.
Rose Water	5 cc.

Vanishing Cream

Stearic Acid	10 grams
Powdered Borax	4 grams
Potassium hydroxide	75 grams
Glycerine	2 grams
Water	100 cc.

Perfume q. s.

Face Powder

Calcium carbonate	10 grams
Talcum	56 grams
Kaolin	20 grams
Zinc stearate	10 grams
Magnesium carbonate	4 grams

Perfume q. s.
For coloring, calamine q. s.

Lip Rouge

White vaseline	700 grams
Yellow vaseline	500 grams
Paraffine	500 grams

Perfume q. s.
For coloring, anilin lake or calamine q. s.

Nail Polish

Acetone	15 cc.
Amyl acetate	30 cc.
Celluloid	10 grams

Geranium lake q. s.

Mercury in various forms has been found to be the principal ingredient in hair dyes and creams. Its purpose in creams has been to remove pigment. It has sometimes been the cause of severe dermatitis and mercurialism. Hair dyes containing arsenous acid have caused dermatitis and marked edema of the face and neck. Bismuth, silver, cobalt, nickel, lead and pyrogallic acid as used in hair dyes cause severe dermatitis. The principal offender at the present time is paraphenylindiamin, a synthetic anilin compound used for dying hair, fuzz, and fabrics. It produces more dermatitis than any other preparation known.

Anilin dye used in lipstick and powder may cause dermatitis. Many perfumes are synthetic. Just what ingredients in the synthetic preparations cause trouble is very hard to say. Orris root used in face powders causes dermatitis, as may also eosin. Dermatitis from rouge is probably due to anilin dye. Anilin may produce trouble in a small percentage of cases. A very elegant and seemingly harmless preparation, essence of violet, is often the cause of dermatitis.

The popular American toilet soaps contain a very small percentage of alkalinity. Their use is not contraindicated except in those who have a very dry and sensitive skin. Very dry skins do well with cold creams and vanishing creams.

Most of the face powders have eliminated mercury and lead and substituted harmless ingredients. A good face powder does no harm to the skin. Powder granules may plug up large pores but massage with cold cream will usually suffice to remove them. Rouge and lipstick when properly made are harmless. The coloring matter should be natural.

All depilatories are irritating when not properly applied. They should be bathed off the skin with warm water and then cold cream applied. Some skins will not tolerate the use of cosmetics at all but this is the exception to the rule. The treatment of dermatitis from cosmetics is, of course, to discontinue the applications of cosmetics and substitute soothing ointments or lotions and wet dressings. Sometimes even x-ray applications may be necessary.

Beauty parlors and barber shops now offer treatments for practically all skin diseases and undertake the removal of hair, moles, warts, pigmentations and even epitheliomas as readily and even more readily than some qualified physicians do. An increasing number of people have applied to physicians for treatment of conditions produced by these men and women, and barber shop and beauty parlor operators sometimes refer people to medical men after they have been unsuccessful in the treatment of such conditions as acne, seborrhea, psoriasis, alopecia areata, lupus, verruca, nevi, sycosis, luetic lesions, and other dermatologic manifestations.

Premature Infants—Strict surgical asepsis should be followed by doctors, nurses and the other attendants giving service to premature infants. This includes a mask completely covering the nose and mouth, sterile gowns, and scrubbing and sterilizing the hands and exposed surfaces of the arms of all persons before they enter the premature infant's room. Persons having respiratory infections, as a common cold, should under no circumstances be allowed to handle prematures. A premature will contract a respiratory infection and be so weak as not to cough at all and die of pneumonia.—*Anderson, J. M. A. Georgia, February* '43.

Child Feeding—The promotion and maintenance of maternal nursing render it necessary to provide the mother with a wide variety of nutrients in liberal amounts which serve to prevent her body from being depleted during lactation and also enable her to produce a maximum amount of milk of excellent quality.

Physicians usually recommend regular nursing intervals of three or four hours. These schedules provide the basic framework of an orderly plan around which mothers may adjust their numerous daily duties. By recommending a nursing schedule the physician discloses an interest in the baby, and this display of interest invites the continuance of medical supervision of infant feeding.

Perhaps nursing programs which synchronize feeding with the physiologic and emotional requirements of each infant are to be preferred. However, since many obviously underfed babies are exceptionally well behaved, whereas many robust thriving infants cry a great deal the recognition of symptoms that clearly indicate a desire and need for food is often difficult. Consequently a moderately regular nursing schedule which includes a reasonable degree of flexibility, particularly with respect to night feeding, seems to provide a practical approach to the ideal plan of timing feeding with hunger. According to my experience the majority of the babies who receive food in adequate amounts soon become satisfied with a moderately regular nursing schedule, and they seem to suffer no permanent emotional damage as the result of the frustration they experience during the period the adjustment to a regular schedule is being made.

One of the commonest feeding problems encountered in early infancy results from the assumption that breast milk is deficient in quantity and quality. This assumption is favored by the tendency of infants to cry and to suck their fists, by the mother's inability to distinguish between the cry of hunger and the cry of other distresses, by the conflicting advice of friends who often suggest some fault in the breast milk, and by the mother's observation that her milk appears blue and watery. These and other factors combine to undermine the mother's confidence in her ability to nurse her baby successfully, and tempt her to resort to bottle feeding. When, under these circumstances, the physician finds that the baby is gaining weight satisfactorily, and informs the mother that her milk is normal in appearance and adequate in amount, the restored confidence derived from this information strongly favors the continuance of maternal nursing. The attainment of this desired result is facilitated by giving mild sedatives, such as chloral hydrate or phenobarbital, to restless infants at night. This expedient frees the mother from the undermining effects of loss of sleep, and the needed rest she obtains augments the amount of milk her breasts secrete.

If the supply of breast milk is deficient, additional food must be given to the baby. This problem is usually solved by resorting to complemental bottle feeding.—*Stewart, Texas State J. Med., Feb.* '43.

THE JOURNAL

of the

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March 1943

THE 1943 ANNUAL MEETING

The Association's 1943 annual meeting, to convene at the Tutwiler Hotel, Birmingham, April 20, 21 and 22 under the presidency of Dr. Harvey Searcy of Tuscaloosa, is calculated to gather together professional men from all portions of the state because of the character of the program that has been assembled for their benefit whether they be in general practice or specialistic fields. Perusal of the program on succeeding pages of this number of the Journal reveals that much of it is instructional in nature, as, for example, the round table discussions on the evening of the 21st on dermatology and the genito-urinary diseases.

Medical education in its broadest aspects likewise will claim the profession's attention during the session, and the Jerome Cochran Lecture on Objectives in Medical Education will be both timely and appropriate. It is to be delivered by the Dean of the Medical School of the University of Michigan, Dr. A. C. Furstenberg, who hopes his presentation may be helpful since there is every indication that in the current year's Legislature favorable action will attend the efforts of the Association's committee on a four-year medical school.

Other distinguished guests will be Dr. Walter E. Dandy, Adjunct Professor of Neurologic Surgery in the Johns Hopkins University School of Medicine, Baltimore, who returns to address the Association after an absence of six years; Dr. James E. Paullin, President-Elect of the American Medical Association; Dr. Philip N. Lewis of Memphis, Associate Professor of Ophthalmology in the University of Tennessee College of Medicine; Commander Bart Hogan who was the Senior Medical Officer of Aircraft Carrier Wasp when it was torpedoed September 15, 1942; and Dr. James J. Durrett, Director of the Medical Advisory Division of the Federal Trade Commission, Washington, D. C.

Members of the Association will contribute to the section programs on surgery, internal medicine and pediatrics, speaking the voice of Alabama's two-hundred forty-eight Association members now in the service of their country. All told, the 1943 session gives promise of being one of the best in the organization's history; and those carrying an added weight on the home front might well avail themselves of the relaxation it will afford.

BEHIND THE DOCTOR

In any democracy the forces that stand behind the doctor are quite as important as the training and ability of the doctor himself. Among the public health movements in the United States no group has recognized this basic principle more promptly or more completely than the American Society for the Control of Cancer in conducting its nation-wide educational campaign against that disease.

In 1936 the Society organized as a practical working unit of lay people what it called the Women's Field Army Against Cancer. From the very outset it was specified that this group of lay workers in the educational field should be guided by governing bodies, and the majority of whose members should be medical men or women. The Society and the Field Army thus definitely committed itself to a policy of standing back of the doctor in the fight against cancer.

The wisdom of this attitude has been amply proven. Today doctors all over the United States report a constantly increasing flow of early cancer cases to their offices for diagnosis and treatment. Since the prospect of cure of cancer is directly related to the ob-

servation and treatment of the disease in its early stages, this evidence of practical value of the Women's Field Army work has convinced the medical organizations of counties and states throughout the Union that real progress can be made in the conquest of the disease.

The mutual benefits to both the patient and the profession have been great. Either group by itself could never be as strong or effective as in close cooperation with the other. Mutual confidence and respect lead to a development of the best qualities of both groups. This sort of progress will count heavily in determining the progressive advance against this disease in the years to come. We are on our way toward cancer control and both the doctor and the prospective patient can face the future certain that sympathy and understanding will continue to decrease the possibility of conflict and obstruction in the drive toward final victory.

THERAPEUTIC FAILURES IN HYPERTENSION

"For years I have studied the effects of many drugs and preparations on the blood pressure in cases of hypertension. Such studies have been prompted by enthusiastic reports of the hypotensive effects of specific preparations. My failure to observe such effects have made me skeptical that they actually occur. Unpublished studies by Kapernick and the reports of Evans and Laughnan indicate that forty or more remedies commonly recommended for the treatment of hypertension do not have any hypotensive effect. Many of them had been recommended on the basis of studies which appeared to indicate substantial reduction in blood pressure. What then is responsible for such differences of opinion?

"I believe the explanation is twofold: (1) failure of recognition by those who report favorably that blood pressure of most hypertensive subjects varies greatly and (2) failure of recognition by those who report favorably of the nonspecific effect of any kind of treatment . . .

"Other investigators and I have shown repeatedly that blood pressure is not static in hypertension, but widely fluctuant. It is not unusual to see a patient whose blood pressure is recorded at 240 mm. of mercury systolic and 130 diastolic in the clinic and as 150 mm. systolic and 100 diastolic at some time in the course of the first day in the hospital if blood pressure is determined frequently. Lesser fluctuations are common. These wide variations present an excellent opportunity for confusion which I believe is manifested in the literature. Extract of pumpkin seed, a proprietary remedy, a few drops of carefully measured distilled water, bread pills, a few inhalations of rarefied air, Indian herbs or dust from a country road might be credited with a hypotensive effect if administered during this period of observation. There is also a lamentable tendency to report the highest figure observed before treatment and the lowest figure for blood pressure observed after treatment."

These paragraphs are from the discussion by Allen[1] of the universal and widespread subject of arterial hypertension. Though brief, Allen's article is well considered and he asks questions which are difficult to answer and which certainly cannot be ignored by thoughtful physicians. Allen is certainly correct when he holds that blood pressure must be determined repeatedly before treatment is begun and he suggests that, if possible, it be recorded two or three times daily for one week.

"After these preliminary studies, treatment may be begun and after an appropriate time the studies of blood pressure just outlined should be repeated and the results charted. If there is no reduction in blood pressure the treatment may be considered valueless for reducing blood pressure . . . If reduction of blood pressure results, treatment should be discontinued. If the blood pressure remains at a low level in spite of withdrawal of medication, then no specific effect of medication can be accepted. If the blood pressure returns to values noted before treatment, the substitution of a placebo for the medicament is advisable."

Allen's specifications are rigid but most honest and experienced physicians will agree that they are sound and contain a great deal of merit. Practitioners, struggling with the victims of hyperpiesia, naturally endeavor to do everything possible for

1. Allen, E. V.: Why are so Many Preparations Said to Reduce Blood Pressure in Cases of Hypertension? Proc. Staff Meet., Mayo Clin. 17: 519 (Oct. 7) 1942.

these patients, but nevertheless they must view alleged remedies for hypertension with skepticism frequently and alarm occasionally. Because of better diagnosis and because of the growing number of the elderly among us, the incidence of hypertension is increasing. The search for remedies and procedures to reduce hypertension is most commendable and praiseworthy; but, as Allen points out, the quest must be thorough and scientific and not incomplete and done in a haphazard manner.

PROGRAM OF THE ANNUAL SESSION

BIRMINGHAM

APRIL 20, 21, 22, 1943

THE TUTWILER HOTEL

GENERAL INFORMATION

All general sessions of the Association will be in the Ball Room of the Tutwiler Hotel, convention headquarters.

Section meetings will be held at the places indicated in the program.

The maximum time consumed by essayists must not exceed fifteen minutes. This time limit, however, does not apply to invited guests. It is suggested that the salient features of papers be presented within this time, reserving the complete elaboration for publication in the Journal. Discussions will be limited to 4 minutes for each speaker.

All papers read before the Association must be deposited with the Secretary when read; otherwise, they will not be published.

During the discussion of papers, the speaker will please walk forward to the platform and announce his name and address distinctly.

Papers will be called in the order in which they appear on the program. Should a reader be absent when called, his paper will be passed, and called again when the program is concluded.

HOST TO THE ASSOCIATION

The Jefferson County Medical Society

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PROGRAM

First Day, Tuesday, April 20

Morning Session

The Ball Room
The Tutwiler Hotel

1. Call to Order at 10:00 A. M. by the President—
 H. B. Searcy, Tuscaloosa.
2. Invocation—
 Rt. Rev. C. C. J. Carpenter, Birmingham.
3. Addresses of Welcome—
 Hon. Cooper Green, Chairman, Birmingham City Commission.
 Kyle J. Kinkead, President, Jefferson County Medical Society.
4. Presentation of the President—
 J. S. Tillman, Senior Vice-President, Clio.
5. Message of the President—
 H. B. Searcy, Tuscaloosa.
6. Reports of the Vice-Presidents—
 (1) *J. S. Tillman, Clio.*
 (2) *B. W. McNease, Fayette.*
 (3) *J. Paul Jones, Camden.*
 (4) *J. O. Morgan, Gadsden.*
7. Report of the Secretary-Treasurer—
 Douglas L. Cannon, Montgomery.
8. Report of the Committee of Publication—
 Douglas L. Cannon, Montgomery.
9. Reports of Standing Committees—
 (1) Public Relations—
 B. F. Austin, Chairman.
 (2) Mental Hygiene—
 Frank A. Kay, Chairman.
 (3) Maternal and Infant Welfare—
 A. E. Thomas, Chairman.
 (4) Cancer Control—
 J. P. Chapman, Chairman.
 (5) Prevention of Blindness and Deafness—
 B. F. Jackson, Chairman.
 (6) Postgraduate Study—
 Ralph McBurney, Chairman.
 (7) Accidents and Industrial Hygiene—
 C. H. Ford, Chairman.
 (8) Four-Year Medical School—
 W. D. Partlow, Chairman.
 (9) Archives and History—
 M. Y. Dabney, Chairman.
 (10) Physician-Druggist Relationships
 R. E. Cloud, Chairman.

* * *

Afternoon Session

Tuesday, April 20

2:00 P. M.

SECTION ON SURGERY

The Ball Room
The Tutwiler Hotel

S. L. Ledbetter, Jr., Birmingham, *Chairman*
James A. Ferry, Birmingham, *Secretary*

1. Paper: *The Perforating Peptic Ulcer.*
 JAMES E. CAMERON,
 Alexander City.
 Discussion will be opened by Earle Drennen, Birmingham.
2. Paper: *The Surgical Consideration of Jaundice.*
 J. M. WASHAM,
 Talladega.
 Discussion will be opened by J. M. Mason, Birmingham.
3. Paper: *The Diagnosis of Brain Tumor.*
 CHALMERS H. MOORE,
 Birmingham.
 Discussion will be opened by Walter E. Dandy, Baltimore.
4. Paper: *Internal Derangements of the Knee Joint.*
 JOHN D. SHERILL,
 Birmingham.
 Discussion will be opened by W. C. Hannon, Mobile.
5. Paper: *The Treatment of Compound Fractures.*
 HUGH GRAY,
 Anniston.
 Discussion will be opened by H. Earle Conwell, Birmingham.

* * *

Afternoon Session

Tuesday, April 20

2:00 P. M.

SECTION ON PEDIATRICS

The Colonial Room
The Tutwiler Hotel

John W. Simpson, Birmingham, *Chairman*
Wallace A. Clyde, Birmingham, *Secretary*

1. Paper: *Infants—and Overfeeding.*
 MARTIN G. NEELY,
 Fairfield.
2. Paper: *Rheumatic Infections in Childhood.*
 C. K. PITT,
 Decatur.
3. Symposium: *The Sulfonamides—Their Usage in Pediatrics.*
 W. A. CLYDE,
 CLIFFORD LAMAR,
 HUGHES KENNEDY,
 Birmingham.

* * *

Evening Session

Tuesday, April 20

7:30 P. M.

SECTION ON MEDICINE

The Ball Room
The Tutwiler Hotel

Cabot Lull, Birmingham, *Chairman*
R. O. Russell, Birmingham, *Secretary*

1. Announcements
2. Paper: *Constrictive Pericarditis: Report of Case.*

CARL GROTE,
Huntsville.
Discussion: L. O. Davenport, Birmingham.

3. Paper: *Coccidioidomycosis.*
J. D. BUSH and E M MASON,
Tuscaloosa and Birmingham.
Discussion: Karl Kesmodel, Birmingham.

4. Paper: *Functional Disorders of the Upper Gastro-Intestinal Tract.*
H. M. SIMPSON,
Florence.
Discussion: J. S. McLester, Birmingham.

5. General Discussion and Questions.

* * *

Evening Session

Tuesday, April 20

6:00 P. M.

SECTION ON EYE, EAR, NOSE AND THROAT

The Colonial Room
The Tutwiler Hotel

E. W. Rucker, Jr., Birmingham, *Chairman*
B. G. Linder, Birmingham, *Secretary*

1. Dinner.

2. Paper: *External Diseases of the Eye: With Kodachrome Slides.*
PHIL LEWIS,
Asso. Prof. of Ophthalmology.
Univ. of Tenn. Col. of Med.
Memphis.

3. Paper: *Acute Infections of the Throat, Mouth and Cervical Region.*
A. C. FURSTENBERG, DEAN,
University of Michigan Medical School,
Ann Arbor.

* * *

Morning Session

Wednesday, April 21

9:00 A. M.

GENERAL

The Ball Room
The Tutwiler Hotel

President Searcy, Presiding

1. Paper: *The Contribution of American Medicine to the War Effort.*
JAMES E. PAULLIN, PRESIDENT-ELECT,
American Medical Association,
Atlanta, Ga.

2. Paper: *The Diagnosis and Treatment of Ruptured Intervertebral Disks.*
WALTER E. DANDY,
Adjunct Prof. of Neurologic Surgery,
Johns Hopkins Univ. Sc. of Medicine,
Baltimore, Md.

3. The Jerome Cochran Lecture
Objectives in Medical Education.
A. C FURSTENBERG, DEAN,
University of Michigan Medical School,
Ann Arbor.

4. Announcement of vacancies in the College of Counsellors. List of vacancies known to exist when the program went to press appears at the end of the program.

* * *

Afternoon Session

Wednesday, April 21

2:00 P. M.

GENERAL

The Ball Room
The Tutwiler Hotel

1. Paper: *Our Health and the Federal Trade Commission.*
J. J. DURRETT, DIRECTOR,
Medical Advisory Division,
Federal Trade Commission,
Washington, D. C.

2. Paper: *The Navy Medical Corps in Combat Areas.*
B. W. HOGAN, COMMANDER (MC)
U. S. Navy,
Washington, D. C.

3. Paper: *The Minority Opinion on Silicosis.*
O. R. TROJE,
Fairfield.

4. Motion Pictures.

* * *

Evening Session

Wednesday, April 21

8:00 P. M.

Round Table Discussion

DERMATOLOGY

The Ball Room
The Tutwiler Hotel

1. A. *Differential Diagnosis and Treatment of Fungus Infections of the Skin—Illustrated with Lantern Slides.*
CHARLES O. KING,
Birmingham.

B. General Round Table Discussion.

2. A. *Some Technical Office Procedures in Dermatology and Syphilology — Illustrated With Colored Lantern Slides.*
ANDREW L. GLAZE,
Birmingham.

B. General Round Table Discussion.

Evening Session

Wednesday, April 21

8:00 P. M.

Round Table Discussion

GENITO-URINARY DISEASES

The Colonial Room
The Tutwiler Hotel

1. A. *Perinephritic Abscess.*
 R. M. COTHRAN,
 Birmingham.
 B. General Round Table Discussion.
2. A. *Kidney and Ureteral Colic Unassociated With Calculus.*
 J. U. REAVES,
 Mobile.
 B. General Round Table Discussion.
3. A. *Ureterovaginal Fistula Following Hysterectomy.*
 J. P. ROBERTSON,
 Birmingham.
 B. General Round Table Discussion.

* * *

Last Day, Thursday, April 22

8:30 A. M.

The Ball Room
The Tutwiler Hotel

Business meeting of the Association sitting as the Board of Health of the State of Alabama.

(1) Report of the Board of Censors;

(2) Revision of the Rolls;

(3) Election and Installation of Officers.

Adjournment

OTHER INFORMATION

Regarding Commander Hogan's Presentation

In connection with his paper, scheduled for Wednesday afternoon, Commander Bart Hogan will give a short resume' of the medical problems that arose during and following the torpedoing of the Aircraft Carrier Wasp on September 15, 1942, at which time he was the Senior Medical Officer of the ship.

* * *

The Jerome Cochran Lecture

Just at this time, when a four-year medical school for Alabama is receiving so much favorable attention, Dr. A. C. Furstenberg's discussion of Objectives in Medical Education should be most helpful. Dr. Furstenberg, Dean of the University of Michigan Medical School, will not only be the Jerome Cochran Lecturer but will also speak before the Eye, Ear, Nose and Throat Section on Tuesday evening.

President-Elect Paullin

The Association is honored to have the President-Elect of the American Medical Association, Dr. James E. Paullin, as its guest. It is likely he will bring interesting information regarding the profession's place in the present global conflict.

* * *

James J. Durrett

A welcoming hand is extended Dr. Durrett on his return to his native soil. Of the paper he will read on Wednesday afternoon, this is what he has to say: "The Federal Trade Commission Act forbids all unfair methods of competition in commerce, and in addition it forbids false advertising of foods, drugs, cosmetics and medical devices, except for some advertising directed exclusively to pharmacists and practitioners of medicine. If we can succeed in stopping dissemination of the large majority of false advertising of foods, drugs, cosmetics and medical devices, there is good reason to believe that the $175,000,000 spent annually for advertising of these articles will become more truthful and will not materially diminish. . . . It is to bring this about that the Federal Trade Commission is now devoting a considerable amount of its time and effort, and it is to explain this effort that I accepted the invitation to address the Association."

* * *

Dr. Dandy Returns

The Association is happy to have Dr. Dandy come again. It will be recalled by many that he addressed the Association in 1936 on the diagnosis and treatment of brain tumors, and, according to his own word, is looking forward to his return.

* * *

Annual Banquet Meeting

Alumni Association

Medical Department

University of Alabama

Dr. Earle Conwell, President of the Alumni Association of the Medical Department of the University of Alabama, announces that the Association's annual banquet meeting will be held in the Ball Room of the Tutwiler Hotel on Wednesday evening, April 21, beginning at 6:00 P. M. Every member of the State Medical Association is invited, and tickets can be had at the registration desk.

* * *

Phil Lewis

Again, Memphis makes a contribution to the program of the annual session—this time in the person of the Associate Professor of the University of Tennessee College of Medicine, popularly known as Phil Lewis. He is to speak to the Eye, Ear, Nose and Throat Section on Tuesday evening on External Diseases of the Eye.

Vacancies in The College of Counsellors

As of March 1, 1943, the following vacancies present in the College of Counsellors for the reasons set forth.

1st. Congressional District—3: P. J. M. Acker and D. T. McCall are to be elevated to Life Counsellors; the second term of seven years of G. G. Oswalt has expired.

2nd District—3: C. G. Laslie and C. K. Weil have resigned; F. W. Pickell has changed his place of residence.

3rd. District—1: E. T. Brunson's first term of seven years has expired.

6th. District—3: H. B. Searcy is to be elevated to Life Counsellor; R. C. Hill and J. V. Howell's first term of seven years has expired.

8th District—1: W. C. Hatchett's second term of seven years has expired.

9th District—6: G. S. Graham is deceased; M. Y. Dabney, B. S. Lester, C. W. Shropshire and A. A Walker are to be elevated to Life Counsellors; Lloyd Noland's second term of seven years has expired.

Counsellors and delegates from these districts will meet in the Ball Room of the Tutwiler Hotel at 7:30 P. M., Wednesday, April 21, for the purpose of making nominations to fill the vacancies.

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Exhibits

Dr. Gilbert Douglas, 1111 South 20th Street, Birmingham, as Chairman of the Committee on Arrangements and Exhibits for this meeting of the Association, hopes that this year's scientific exhibits will be the best in the history of the organization, and invites members of the profession to write him regarding space.

COMMITTEE CONTRIBUTIONS

CANCER CONTROL

J. P. Chapman, Chairman
Selma, Alabama

The Women's Field Army

The Women's Field Army of Alabama is making progress as evidenced by the fact that more counties are being organized each year. Mrs. Ray Meade of Birmingham was appointed State Commander of the Army for 1943. The Association's committee on Cancer Control and the State Commander act as an executive committee for Alabama. Locally, the cancer committee of the county medical society and the county captain form the county executive committee. The organization of the Army can go ahead only as fast as the medical profession wills it to go and goes with it. Therefore it is essential that each county medical society appoint a cancer committee to guide and cooperate with the members of the Army. It is gratifying to the Committee on Cancer Control to learn of the fine cooperation given these women by the county medical societies.

April has been set aside by the President of the United States as Cancer Month. This is the campaign month. Enlistments are based on a minimum fee of one dollar, but many women are contacted who do not enlist. These women are given literature calling their attention to the need for regular physical examinations and the reporting of danger signals to their physicians as soon as they appear. All physicians can help the cancer cause by giving these periodic examinations to all patients requesting them.

The Committee urges all physicians to cooperate with the Women's Field Army in its educational program by volunteering to speak at meetings. Lay people appreciate having scientific information brought to them by the medical profession.

MATERNAL AND INFANT WELFARE

A. E. Thomas, Chairman
Montgomery

Pelvimetry

Measurements of the bony pelvis, including the inlet and outlet, have gone through a number of phases since the beginning of the century. At first, the external pelvic measurements were considered adequate. Arbitrary figures were set, less than which it was considered that delivery from below would be impossible.

A little later, more emphasis was placed upon the size of the fetus as compared to the size of the pelvis, rather than actual figures which were used to decide whether or not a pelvis was too small for delivery of a baby.

A few years ago, determination of this comparison was made much easier by the development of a method of x-raying the pelvis. This is probably one of the best ways of determining whether or not a fetus

can enter the pelvic canal. The techniques, while not difficult, require a certain amount of training and special equipment which, at the present time, is only available in the larger hospitals and in the offices of the roentgenologists.

Outlet pelvic measurements have been receiving more attention during the past few years. The inlet measurements may be adequate for the size of the baby, but the outlet contracted, which might result in a prolonged and difficult second stage with death of the baby.

The physician who does not have readily available facilities for x-raying the pelvis will find that he can obtain adequate help from careful measurements of the internal conjugate and pelvic outlet. The external pelvic measurements, while acting as guide posts pointing to possible trouble, are not to be depended upon as an adequate method to determine the size of the pelvis. Charts on internal and outlet pelvimetry are available and should be carefully studied by the physician who has primiparas under his care.

Labors of primiparas and multiparas who have not had full-term children are unpredictable. Therefore it is necessary for special attention to be given to the pelvic measurements as well as abdominal examinations to determine whether or not the birth canal is large enough to allow the full-term baby to pass through it.

In multiparas who have had one or more spontaneous full-term deliveries, pelvic measurements are not essential. It is much more important that the physician examine the mother several times during the last six weeks of pregnancy to determine whether or not that particular baby will go through the pelvis, for there may be disproportion due to the size of the baby in the present pregnancy which would present difficulty.

MEDICINE AND THE WAR

DUTIES OF U. S. CITIZENS DEFENSE CORPS IN GAS DEFENSE

A program for civilian protection against gas is being rapidly developed by the Medical Division of the Office of Civilian Defense. Courses have been presented for physicians selected from the faculties of medical schools to be trained as instructors in the medical aspects of chemical warfare. Arrangements are now being made for the presentation of courses by these instructors in their own medical schools.

Training for non-medical personnel is provided in Gas Specialist Courses which since early December have been presented monthly at War Department Civilian Protection Schools. These schools are located at Amherst College, Amherst, Massachusetts; Perdue University, Lafayette, Indiana; Loyola University, New Orleans; Occidental College, Los Angeles, California; Stanford University, Palo Alto, California, and the University of Washington, Seattle, Washington.

The Gas Protection Service of the U. S. Citizens Defense Corps has been organized as follows: The Medical Division of the Office of Civilian Defense has a Gas Protection Section responsible for organization and training for gas defense. This section functions through the nine Civilian Defense Regions, which are coterminous with the Service Commands of the U. S. Army. Regional Gas Officers have been designated for several of the coastal Regions to supervise and assist the State Gas Consultants and the Senior Gas Officers of defense councils in the organization of State and local programs. The Senior Gas Officer trains Gas Reconnaissance Agents who serve in each zone of the city. These men are responsible for the identification of the agent, the collection of samples, the prevention of casualties, the delimiting of gassed areas, and for cooperation with the Emergency Medical Service, the Health Department and other agencies concerned in protection against gas.

Instructions to members of the U. S. Citizens Defense Corps on their duties in gas defense have been issued by the U. S. Office of Civilian Defense in Operations Letter No. 104 (Supplement 3 to Operations Letter No. 42), dated January 11.

The duties to be performed before, during and after gas attacks are outlined for the fol-

lowing individuals and groups: State Gas Consultant, Senior Gas Officer, Assistant Gas Officers, Gas Reconnaissance Agents, Laundry Officer, Commander of the Citizens Defense Corps, Incident Officer, Air Raid Wardens, Police Services, Fire Services, Emergency Medical Service, local Health Department, Public Works, Public Utilities, Transportation Services and Emergency Welfare Services.

For the Emergency Medical Service the duties are set forth as follows:

Duties before gas attack:

1. Plan with assistance of Senior Gas Officer for the establishment of gas cleansing stations for cleansing gassed patients with other injuries and for cleansing of civilian protection personnel. Each hospital of 150 beds or more should be provided with a cleansing station. Cleansing stations should be available in the ratio of one per 50,000 population and should be located at smaller hospitals or casualty stations where 150-bed hospitals are not available in this ratio.

2. Recruit, train, and assign personnel to gas cleansing stations for cleansing services.

3. Provide instruction, in cooperation with the Senior Gas Officer, for general public and civilian protection personnel in self-protection and self-cleansing (Operations Letter 46).

4. Provide for instruction of physicians in diagnosis and treatment of chemical casualties.

5. Assist hospitals in planning for handling of gas casualties.

6. Assure adequate distribution of protective clothing and gas masks and other protective equipment to members of mobile medical teams and train personnel in their use.

7. Make provisions for training drivers of ambulances and sitting case cars in protection of their equipment against liquid-gas contamination; inform them of arrangements for vehicle decontamination by Emergency Public Works Service.

8. Arrange for the protection from contamination of the equipment used to transport contaminated casualties insofar as it is possible.

Duties during gas attack:

1. Upon advice of the Senior Gas Officer and under the orders of the Commander, man the gas cleansing stations.

2. Advise other services of the U. S. Citizens Defense Corps in regard to first-aid cleansing of their personnel.

3. Assign a mobile medical team to gas cleansing stations for first aid.

Duties after gas attack:

1. Evaluate the effectiveness of the cleansing procedures which have been used.

2. Provide follow-up treatment of patients.

3. Prepare inventory of protective equipment available for use in future attacks and obtain additional equipment as necessary.

4. Cleanse bodies of the dead to facilitate identification.

Important functions assigned to the health department in the local program of gas defense are as follows:

Duties before gas attack:

1. Provide for analyses for war gases in samples of food and water. These tests may be performed in a local health department if laboratory facilities are adequate. In such case it is desirable to utilize the same laboratory facilities for the analysis for war gases of air and other materials. Where laboratory facilities other than those of the local health department are more suitable for use in the analysis of war gases, arrangements should be made by the local health department for the analysis of samples of water and food.

2. Advise the Senior Gas Officer regarding the nature of instructions to the public concerning precautions to be taken in the event of water-supply contamination. Such instructions are to be promulgated by the health officer.

3. Cooperate with waterworks officials in planning for the protection and decontamination of the water supply.

Duties during gas attack:

1. Collect samples of food and water for laboratory analysis if contamination is suspected.

2. Inform the public regarding contamination of food and water supplies, including recommendations in regard to self-protection.

Duties after gas attack:

1. Decontaminate, destroy, or otherwise provide for the handling and disposal of contaminated food supplies.

2. Assist the waterworks in the treatment of contaminated water supplies.

3. Advise the Senior Gas Officer in regard to the safety of the public water and food supplies and inform the public regarding contamination of such supplies, and methods of dealing with it.

4. Obtain reports of analyses of samples of water or food and take appropriate action. Save specimens of contaminated water and food for transmission whenever necessary to a Chemical Warfare Service or other laboratory, by the Senior Gas Officer.

Gas masks are now being distributed to the personnel of the protective services. As a guide to local distribution and care of masks, the U. S. Office of Civilian Defense issued Operations Letter No. 106, January 20.

It is recommended that masks be distributed among the protective services of the U. S. Citizens Defense Corps in approximately the following proportions: Staff, 12.5 per cent; Fire Service, 10.5; Police Service, 18.5; Aid Raid Warden Service, 30; Rescue Service, 1.5; Medical Service, 12.5; Public Works, 9; and Public Utilities, 5.5.

Masks should be kept at the post where the protective personnel will assemble during drills or enemy action, not carried by them during their daily activities, the Operations Letter advises. It is recommended also that about 20 per cent of the masks allocated to each service be stored as a reserve. It is important that the reserves be decentralized as a safeguard against destruction by fire or bombing and also to permit rapid distribution in case of an emergency.

The directive points out that since valuable and critical materials are used in the manufacture of gas masks, the utmost care must be exercised in the handling, distribution and storage. No person should receive a mask until he has been trained in its use and care, including proper storage, it is advised.

Storage must be in a cool, dry place and masks should be kept from contact with sunlight, oils and corrosive liquids and vapors. After use, masks should not be worn by another individual without proper sterilization, instructions for which are given in the OCD publication "Protection Against Gas."

Repair of masks is not to be attempted locally except in case of extreme necessity, the Operations Letter states. Broken and defective masks or those with exhausted canisters should be collected by the local Property Officer and returned to OCD Supply Depots for repair and replacement.

NATIONAL HEALTH ADVISORY COUNCIL

A National Health Advisory Council has been organized in Washington today to project and carry out a broad program looking to health conservation as one of the most important factors in winning the war.

The Council was created by the Chamber of Commerce of the United States to consider national health problems in relation to the war program.

Its first meeting, held in Washington, February 5, was opened with a statement by National Chamber President Eric A. Johnston, which said:

"Disease and physical disability in war production constitute one of the most serious threats to speedy victory. Medical authorities estimate that a well-thought-out program, vigorously carried out, could add the full time of as many as one million workers to the war program. We must disarm and defeat disease on the home front if we are to make early victory possible. Even partial conquest in that direction would add greatly to the nation's manpower resources, now presenting one of the war program's most difficult problems.

"And, aside from the direct benefits accruing to the war effort from health conservation, we must consider the staggering cost of disease. Together with physical disability, it is taxing the American people $10,000,000,000 a year. This tax everyone pays and no one gets. It is a 5 to 10 per cent drag on war operations."

General chairman of the Council is Dr. James S. McLester, professor of medicine at the University of Alabama, Birmingham, who outlined the contemplated nationwide program. He said:

"The plan is for a broad educational effort designed to raise the nation's health levels. Once established, it is earnestly hoped these levels can be maintained after the war is won, as a means of continuing improvement of the national welfare.

"It is intended to promote both within and out of industry personal health, safety,

nutrition and physical conditioning, with particular emphasis on war emergency needs and conditions. The program will be made available widely to industrial organizations, chambers of commerce and communities. In any community it can be applied to reduce work absence, raise the morale and increase the physical effectiveness of workers and to assist their families in problems of health, diet, illness and nursing.

"War Production officials are appealing to War Production Drive Committees, of which there are nearly 2,000 in war plants, to keep the American workman healthy and fit, so as to gain man hours in production. Only healthy workers can supply the needed drive to keep our armed forces supplied with the implements of war.

"Few investments can yield the returns that will come from an aggressive effort to better the national health."

The National Health Advisory Council will serve to channel approved technical health information developed by the country's many scientific associations to business organizations and their members throughout the country, so there may be brought about a better public understanding and appreciation of medical science as a means of safeguarding public health to win the war. It will work through the Chamber of Commerce of the United States as a central organization, which, in turn, will work through its far flung membership of trade associations, chambers of commerce and corporations and firms. The Council's membership starts with thirty of the nation's leading medical and health authorities. This membership will be increased as the work progresses.

The council's first meeting, presided over by James L. Madden, of New York, vice-president of the Metropolitan Life Insurance Company, and chairman of the National Chamber's Insurance Department Committee, heard a round-table discussion of wartime health problems. Discussion leaders were Dr. James S. McLester, Professor of Medicine, University of Alabama; Dr. Wilson G. Smillie, Medical School, Cornell University, New York City; Dr. Felix J. Underwood, State Health Officer, Jackson, Mississippi; Dr. Leverett D. Bristol, Health Director, American Telephone & Telegraph Company, New York City; and Dr. H. M. Marvin, Yale University, New Haven, Connecticut.

Reports were made by three committees of the council. The committees and their chairmen are Community Health Committee, Dr. Smillie; Industrial Health Committee, Dr. Bristol; and Individual Health Committee, Dr. James E. Paullin, Professor of Medicine, Emory University, Atlanta, Georgia.

At a luncheon meeting Dr. Thomas Parran, surgeon general of the United States, talked on the health state of the nation.

OCD BLOOD PLASMA RESERVE

The Medical Division of the Office of Civilian Defense pointed out in a recent Medical Circular that plasma reserves are available in every Civilian Defense Region for use in the event of casualties resulting from enemy action or sabotage. The circular emphasizes that this plasma may be used for life-saving in any disaster. If OCD plasma is used in non-war related incidents, its use may be considered as a loan, and arrangements may be made later for its replacement, it is pointed out.

Through monthly reports issued by the blood plasma section of the Medical Division, Regional Medical Officers keep all chiefs of Emergency Medical Service, hospitals and American Red Cross Disaster Relief Chairmen informed concerning the amount and distribution of plasma reserves available in their States, and how localities may secure additional supplies in emergencies.

In cities where reserves are stored, they may be obtained by hospitals through the local Chiefs of Emergency Medical Service. If a community is without plasma or if its supplies are depleted, the local Chief of EMS may obtain additional plasma in emergencies from the State Chief of EMS.

NURSING EXECUTIVES FOR EMERGENCY BASE HOSPITALS

To assure adequate supervision of nursing service in Emergency Base Hospitals, the Surgeon General of the United States Public Health Service has authorized the appointment of a limited number of nurses with supervisory and administrative experience to serve as nursing executives. Dr. George Baehr, Chief Medical Officer, Office of Civilian Defense, made this announce-

ment in a Circular, Medical Series No. 24, U. S. Office of Civilian Defense.

Emergency Base Hospials are institutions in relatively safe areas, adjacent to probable target areas, designated by the Medical Division, Office of Civilian Defense, to receive civilian casualties or other hospitalized persons from Casualty Receiving Hospitals in the event of a grave wartime emergency.

The appointment of these nursing executives will follow in general the method that is being used in the appointment of physicians who, as members of affiliated hospital units, will hold inactive reserve commissions in the Public Health Service and will be called to active duty in Emergency Base Hospitals only when additional staff is needed because of a war emergency.

Nurses recruited under this program may be assigned by the State Chief of Emergency Medical Service to serve at Emergency Base Hospitals either individually or with affiliated units. They may supervise a newly created nursing service or supplement the existing supervisory staff of an institution.

The nurses will be offered appointments in the Public Health Service as consultants on an inactive status and will be called to active duty by the Surgeon General on the recommendation of the State Chiefs of Emergency Medical Service and Regional Medical Officers only if their services are required at Emergency Base Hospitals because of a military necessity, the Circular states. When on duty they will be entitled to payment by the Public Health Service according to their experience and qualifications.

The circular authorizes the number of nurses to be recruited in each state for this purpose to be twice the number of affiliated hospital units actually being formed in the state. Although their appointments will obligate them to serve in an Emergency Base Hospital in their Regions if called to duty by the Surgeon General in a wartime emergency, they may resign their appointments in the Public Health Service at any time to accept assignments in the Army or Navy.

GAS DEFENSE ORGANIZATION PLAN

Recommendations for the guidance of State and local defense councils in the organization of gas defense programs were recently issued by the Office of Civilian Defense through its Medical Division, which is responsible for the administrative and technical organization of gas protection, in Operations Letter No. 91 (Supplement No. 2 to Operations Letter No. 42).

Head of the recommended State gas organization is the State Gas Consultant, appointed by the State Defense Council. This official should be a chemist, chemical engineer or sanitary engineer, preferably selected from or attached to the State health department, since many of the problems in gas protection are related to the activities of that agency. His duties include assistance to local U. S. Citizens Defense Corps Commanders in the selection of Senior (local) Gas Officers and in arranging for the training of the latter. He should also serve as a consultant on local programs.

The Senior (local) Gas Officer should have a college degree in engineering or chemistry, or equivalent scientific training, and should have had experience in some branch of engineering or chemistry in an administrative, educational or industrial capacity. It is advisable that he be a member or a deputized officer of the local Health Department since many of his responsibilities are in the field of that department's activities. To assist him, he should have assistant gas officers and gas reconnaissance agents.

The development and operation of the local gas program and integration of its activities with other services are the responsibility of the Senior Gas Officer. He must select his assistants and provide for their training; prepare inventories of equipment and supplies necessary for gas defense; help develop an educational program to promote and maintain civilian morale, and assist in the development of an adequate gas alarm. During a gas attack, he will direct gas defense from the Main Control Center. Assistant Gas Officers may be assigned to district control centers. He is responsible for identifying the type of gas used, for delimiting the contaminated areas, and for determining the safety of such areas after decontamination.

The duties of the Gas Reconnaissance Agents are defined in the Operations Letter as follows: detection of gas and identification of the agent used; delineation of gassed areas and, following decontamination, inspection to determine the completeness thereof prior to reoccupancy. Their recommendations should cover evacuation of personnel and dispatch of decontamination

units. It is recommended that these workers be appointed and trained in the proportion of two to four per hundred thousand of population.

The Senior Gas Officer must cooperate with all the units of the local defense organizations, since the activities of all will be affected by a gas attack. In addition, he will serve as adviser to the health department or other local agency responsible for the safety of food and water supplies, giving technical advice on the decontamination, seizure, destruction and disposal of food and water exposed to chemical warfare agents.

Training for State Gas Consultants and Senior (local) Gas Officers is being provided by the Medical Division in "gas specialist courses" at the War Department Civilian Protection Schools on behalf of and in collaboration with the Office of Civilian Defense. These schools are carried on in the following colleges and universities: Amherst College, Amherst, Mass.; Loyola University, New Orleans, La.; Perdue University, Lafayette, Ind.; University of Washington, Seattle, Wash.; Stanford University, Palo Alto, Calif.; and Occidental College, Los Angeles, Calif.

The establishment of State schools for the training of Gas Reconnaissance Agents and Senior Gas Officers who are unable to attend the War Department schools is in progress With the aid of these schools and certain local schools, the organization and training of members of the Citizens Defense Corps in gas defense will be completed.

PLAN FOR PROTECTION OF WATER SUPPLIES IN WAR EMERGENCIES

A plan of organization for an emergency program to assure adequate water supplies in the event of a war disaster is recommended in Circular, Medical Series No. 26, "Appointment and Duties of State and Assistant State Water Supply Coordinators," issued by the Office of Civilian Defense for the guidance of State and local Defense Councils.

The State Water Supply Coordinator is to be appointed as an official of the State Defense Council, on recommendation of the State Department of Health, the Circular advises. The Circular states that a member of the State agency having supervision over municipal water supplies would be a desirable appointee. He should work in close cooperation with the State Department of Health or other State agency responsible for water-works and with the Regional Sanitary Engineers of the Office of Civilian Defense.

The duties of the State Water Supply Coordinator according to the Circular, should be to:

(1) Prepare plans, rules and regulations for adoption by the State Defense Council and be responsible for administering the rules and regulations adopted.

(2) Institute and develop the mutual aid plan within the State as suggested in Sanitary Engineering Bulletin No. 1, U. S. Office of Civilian Defense, and be responsible for its operation at the State level during emergencies.

(3) Coordinate the emergency water supply program with other civilian defense activities.

(4) Develop a program for and coordinate the efforts of Zone Water Supply Coordinators.

(5) Cooperate with the Regional Sanitary Engineer, Office of Civilian Defense, and develop interstate mutual aid.

To facilitate the program, the Circular suggests the establishment of zones or districts within States, which will be under the direction of Assistant State (Zone) Water Supply Coordinators. Such coordinators should be selected from leading waterworks officials in the areas. The duties of this official are set forth in the Circular as follows:

(1) To negotiate pacts among localities for the operation and financing of the mutual aid plan and be responsible for the administration of the program within the zone during emergencies.

(2) To establish and maintain contact with local councils of defense and integrate the local emergency water supply program within the State program.

(3) Advise local waterworks authorities on (a) technical aspects of emergency waterworks engineering, (b) recruitment and training of auxiliary personnel and emergency training of regular personnel, (c) integration of the emergency water supply program with other local protective services.

The Circular recommends that in States in which emergency water supply programs are being carried on by regular State departments as adjuncts to their regular duties, the program be officially recognized as a part of the civilian defense program of the State and that its leaders be designated as outlined in the Circular.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D.
State Health Officer in Charge

HEALTH IN RURAL ALABAMA

Thomas Jefferson on more than one occasion expressed the opinion that democracy would survive in the United States as long as the country remained predominantly agricultural. If agriculture should ever have to play second fiddle to industry, however, he was not so sure. "The mobs of great cities add just as much to the support of pure government," he wrote, "as sores do to the strength of the human body. I think we shall be virtuous as long as agriculture is our principal object. . . When we get piled upon one another in large cities, as in Europe, we shall become as corrupt as in Europe."

America has become a great industrial nation since Jefferson's day, but, notwithstanding his doubts, democracy appears to be as strongly entrenched here as it was in his time. Even at that, there are many students of government who believe that rural America is much more representative of the democratic ideal than teeming cities.

However much we may say in praise of a predominantly rural population as a factor in keeping democracy alive and virile and in praise of its other advantages there is no doubt that certain problems assume greater seriousness among rural people than among city dwellers. One of them certainly is the protection of the people against certain diseases.

Although a slaveholder, Jefferson was opposed to Negro slavery and advocated the transplanting of America's slaves, after their emancipation, to other parts of the world, where, he hoped, they would be able to set up their own governments and live in perpetual peace and prosperity. As is known, emancipation came but no wholesale exodus of our Negroes followed. There is a wide difference of opinion as to whether such a mass movement of Negro population would have been a wise thing from the colored people's point of view and from that of the United States as a whole. They might be happier and the American people as a whole might be happier too had that been done. On the other hand, the experiment might have turned out most unfortunately. Who can say?

But of one thing there is no doubt. The presence of the Negro as a considerable segment of the American population has profoundly affected practically every aspect of American life.

With approximately 70 per cent of her population classified as rural and containing approximately one Negro for every two white people, Alabama is, to an unusual degree, enjoying the benefits and suffering from the disadvantages brought by ruralization and the Negro.

This state's peculiar status with regard to both rural population and the Negro adds greatly to its health problem. For there are numerous diseases, some of them taking high rank as killers and others adding greatly to the burdens of poverty, ignorance and personal inefficiency, to which the members of one or both of these groups are particularly susceptible. The Negro whooping cough death rate, for example, is about two and one-half times as high as the white rate. The tuberculosis death rate is about three times as high among Negroes as among white people. Malaria kills more than twice as many Negroes in proportion to population as white people. The Negro death rate for syphilis is approximately seven times the white rate. The white death rate for influenza is only about two-thirds as high as the Negro rate. More than two and one-half times as many Negroes succumb to pellagra in proportion to population as white persons. The condition known as intracranial lesions of vascular origin claimed only about 70.9 white persons last year out of every 100,000, but the Negro rate was 108.5 per 100,000—more than 53 per cent higher. Heart disease, the greatest of all killers by far, is responsible for approximately 27 per cent more Negro deaths than white deaths in proportion to population. Higher Negro death rates are also found for pneumonia, diarrhea and enteritis (under two years), hernia, nephritis, and the conditions associated with childbirth. Nor is that all. The Negro stillbirth

rate is considerably higher than the white rate, and the death rate among Negro babies is markedly higher than among white babies. All rates quoted or used for comparisons are the provisional rates for 1941, the latest available.

And what of the greater health dangers to which a state like Alabama is especially exposed by virtue of being largely rural?

Our latest available statistical information is found in the 1940 report of the State Health Department's Bureau of Vital Statistics. It shows that, during that calendar year, the rural death rates for typhoid fever, scarlet fever, whooping cough, diphtheria, malaria, influenza, measles, typhus, pellagra, and diarrhea and enteritis (under two years) were substantially higher than the urban rates for these same conditions.

It should be pointed out that the increased mortality and, presumably, the greater prevalence of these forms of illness among our rural population have a public health significance—and also a social significance—not apparent on the surface. Some of these diseases, like scarlet fever, whooping cough and diphtheria, play little or no part in society's advancement except insofar as they affect the health and personal fortunes, of their victims. Others, however, like malaria, typhus and pellagra, tend to act as a brake upon the social, economic and educational advancement of our people as a whole while making complete or partial invalids of their immediate victims. Let us not forget that malaria, for instance, played a part in the fall of ancient Greece and Rome, immobilized entire armies during the first World War, and probably had almost as much to do with the fall of Bataan and Corrigedor in the early months of 1942 as the Japanese army. The late Dr. J. N. Baker once expressed the opinion that this disease had probably played as great a part in the fortunes of the South as Sherman's march to the sea.

Pellagra, known as "the red plague," also is a product of ignorance, poverty and social backwardness. It is one of the ironies of nature that persons who live on, or close to, the soil and wholesome fruits and vegetables that grow there are particularly susceptible to this form of illness, which leaves its tragic imprint upon those who do not get the food they need in properly balanced quantities.

If we leave the vital statistics reports for a moment and turn our attention to a disease that plays an almost insignificant role in the mortality tables but a vastly important role in the progress, prosperity and happiness of our people, we find one of the most potent reasons why rural health is so important in Alabama or any other rural state. The disease referred to is hookworm, which killed only four Alabamians in 1940 but is constantly robbing thousands of them of the physical energy and mental alertness without which individual or social progress is impossible. And it need hardly be emphasized that this vampire disease, which is really an invasion of the human body by blood-sucking parasites, is almost entirely confined to our rural areas, where there are few modern sewers for the sanitary disposal of body wastes and where shoeless feet frequently come into direct contact with hookworm-infested soil.

It should be pointed out that rural conditions *per se* are not entirely and directly responsible for the greater prevalence of certain diseases in rural areas. It is unfortunately true that certain social conditions, which have an important bearing upon health, are more unfavorable in the country than in the city or town. For one thing, there is a more serious lack of medical care there than in the city. You can hardly expect good health conditions in any community, urban and rural, where there are not enough physicians to attend to the medical needs of the people.

What is plainly true, in Alabama and elsewhere but especially in Alabama, of the shortage of physicians in relatively poor rural communities is no less true in those segments of the population as a whole, both urban and rural, that are economically underprivileged. And the Negroes of our own and other states constitute a very large proportion of the economically submerged. Having little or no money with which to pay for medical care, they get along without it as far as they can, except to the extent that physicians are willing to treat them on a charity basis. It is hardly surprising therefore, that on the whole, health conditions among the Negroes are even worse than among the rural population as a whole.

Fully aware of the peculiar health problems due to Alabama's being essentially a rural state and containing an unusually

large percentage of Negroes, the State Department of Health is devoting particular attention to the solution of those problems. Much has been accomplished. But much still remains to be done.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

Specimens Examined

December 1942

Examinations for diphtheria bacilli and Vincent's	780
Agglutination tests (typhoid, Brill's, undulant fever)	436
Typhoid cultures (blood, feces and urine)	576
Examinations for malaria	480
Examinations for intestinal parasites	1,246
Serologic tests for syphilis (blood and spinal fluid)	53,803
Darkfield examinations	38
Examinations for gonococci	1,747
Examinations for tubercle bacilli	1,420
Examinations for Negri bodies (microscopic)	37
Water examinations (bacteriologic)	760
Milk examinations	1,774
Pneumococcus	9
Miscellaneous	373
Total	63,484

* * *

TOTAL SPECIMENS—1942

Examinations for diphtheria bacilli and Vincent's	11,132
Agglutination tests (typhoid, Brill's, undulant fever)	8,903
Typhoid cultures (blood, feces and urine)	10,135
Examinations for malaria	16,943
Examinations for intestinal parasites	26,140
Serologic tests for syphilis (blood and spinal fluid)	569,367
Darkfield examinations	531
Examinations for gonococci	27,729
Examinations for tubercle bacilli	21,829
Examinations for Negri bodies (microscopic)	678
Water examinations (bacteriologic)	11,046
Milk examinations	24,027
Pneumococcus	114
Miscellaneous	6,707
Total	735,281

HOME DISINFECTION OF WATER

Not infrequently the question is asked: How can I treat water that I am not certain about so that it will be safe to drink? Really, the answer is quite simple and the results obtained are entirely reliable if we just know what to do. Stripped of technicalities the method of treatment may be as follows:

1. Boiling, for at least two minutes. This is perhaps the surest way of doing the job, but this procedure, of course, requires fuel; and then some way of cooling the water after it has been boiled is an advantage.

2. Chemical treatment, by adding some chlorine compound. Of the various substances that may be used one or another is almost certain to be found in every home. For example, tincture of iodine in the proportion of four or five drops to the gallon is about as simple as anything, but any one of the laundry bleaches that can be bought in any grocery store will do just as well. The labels on the bottle will probably give directions but for most of them two or three drops to the gallon will be about right.

At any rate, in using any of these preparations, a certain period of standing—about an hour—is essential before the water is used.

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

THE HISTORY OF 4,225 CASES OF DIPHTHERIA IN ALABAMA

Since 1937 an attempt has been made to secure information on every case of diphtheria reported in Alabama, particularly with reference to prior immunization. With the addition of the 1942 figures, questionnaires have now been received on 4,225 cases of diphtheria. A summary of these show:

1. Of the 4,225 cases, 884, or 20.9%, had received some form of prior immunization. Alum-precipitated toxoid was probably used in most of these although plain toxoid or toxin-antitoxin was specified in some.

2. Of the 884 giving a history of immunization, 30, or 3.4%, died.

3. Of the 2,660 (no information for 1937) giving no history of immunization, 281, or 10.56%, died.

4. Approximately 79% of the cases and 91% of the deaths are occurring in the unimmunized group.

5. Two hundred forty-seven (247) or 5.8%, of the cases occurred in infants under one year of age.

The percentages have varied little from year to year and the total sample is now

large enough to be significant. It would appear that the materials used for immunization are failing to accomplish their results in certain cases or that the original protection is being lost. However, the death rate in this group is only one-third that of the group receiving no artificial stimulus and on this basis alone the administration of toxoid would be justified. What percentage of children have been given toxoid is not known so that comparable attack rates cannot be figured but with 80% of the cases and 90% of the deaths occurring in the uninoculated it would appear that this group is being severely penalized.

During the six years under consideration there were 247 infants less than one year of age to contract diphtheria. This is one reason we advocate the early administration of toxoid. The number of failures to protect would also be lessened if the stimulating dose were administered before school age is reached.

The diphtheria picture as a whole is showing improvement, but there must be no let up in the immunization program to reach the 80% of children contracting the disease.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

KEEPING CIVILIANS NUTRITIONALLY FIT

Contributed by
Amanda Tucker
Consultant in Nutrition

War energy is seething and manifests itself in many places and in many ways. Crowded streets, busses, trains and streetcars, as well as public eating places, call for adjustment to a new tempo in our daily living. Even our homes are affected in nearly every phase of everyday living.

World conditions have greatly affected the food situation, which, in turn, has made some changes in our food habits necessary and we may expect further changes. Nutrition is important because in wartime it is even more necessary to be physically and mentally fit than when the day's problems are normal.

We should take stock of ourselves and see how the situation is affecting our own health and the health of our communities. Is everyone participating fully in the national campaign for saving foods?

Total war calls for no halfway measures and the price of survival for a free nation is bound to be high.

The immense effort required to see that available stocks of goods are distributed where they will count most in carrying on the war leads to restrictive orders, and the success of these measures will be only partial without voluntary cooperation on the part of everyone.

It is a tremendous task to protect the nutrition of both soldiers and civilians in the face of steadily increasing difficulties. Rationing is a subject uppermost in our minds just now. We should think of rationing as sharing, rather than as taking away. Rationing is set up to insure a fair distribution of available foods and prevent hoarding. The food shortages as yet are more inconvenient than serious and nutrition need not be impaired by limited rationing. In order to be well nourished, it is important that we have a working knowledge of foods and their uses in the body. Then we can make the necessary adjustments in our diets and still get the food substances we need. In fact, with such knowledge, we can use these changes to improve our nutritional status.

"The quartermaster" of the kitchen in every home in America has an important new assignment: Adjust her meal planning and recipes, make wise substitutions of available foods, and map her family's participation in the share-the-meat campaign. One big problem is to make good use of all the meat she gets, become acquainted with unrestricted variety meats such as kidney, liver, heart, tongue, brains, and sweetbreads; serve chicken, turkey, duck, goose, guinea, etc.; use fish when possible; choose cheese, eggs, dried beans and peas, peanuts and soybeans. Meat's main function is to supply us with what we need to grow on and since children are the ones doing the growing they should have meat every day. They need the protein meat contains, also additional protein in milk and eggs. In the case of milk, one glass of milk used in place of one ounce of meat will provide the same amount of protein, two times more energy value, two times as much fat, seventy times more calcium, one-half as much iron, three and one-half times more thiamin, seventeen times more riboflavin, and carbohydrates and vitamin A which meat does not provide.

Sugar rationing to approximately one-half pound per person per week is sufficient for any individual. In fact we would get along as well or perhaps better nutritionally speaking if we used only natural sugars in fruits, honey, molasses and the syrups.

Fats top the list of foods for fuel or energy value. They are also valued for the flavor, richness, and staying quality they give to the day's meals. Many fats contain fatty acids and vitamins A and D essential in good nutrition. We have lost the oils from the Far East but domestic crops of soybeans, peanuts, cottonseed and lard have diverted a threatening crisis. However, we are likely to face a shortage. It is most essential that waste kitchen fats be salvaged for the War Department.

Another factor which will limit the food supply is the metal shortage. This in turn causes a shortage of canned foods and evaporated milk. Everyone is aware of the alarming threat to food production due to the shortage of manpower, and the longer the United States is in the war the more critical certain foods will become. Someone has said, "There will be bread and gravy for all, but civilians must change their eating habits." The Quartermaster Corps takes care of the soldiers and provides the right food in proper balance, but civilians must be responsible for their own nutrition. Every man and woman should be familiar with the recommended daily allowances set by the Committee on Foods and Nutrition, National Research Council, and see that their body needs are provided for. Every parent should be responsible for the nutrition of his or her children.

The medical profession can do more than any other group in the state toward keeping civilians nutritionally fit by encouraging everyone to grow more food. And we need to get away from the snug belief that a spade, a few seed, fertilizer, and a little brave talk will do the job.

"So that soldiers and civilians will be strong—men in the fighting front, men and women on the manufacturing lines or in the home, and children who so soon will be grown, all must be fit to help carry our country through war with its hardships to peace with its blessing."

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

THE STANDARD CONCRETE SLAB AND CAST IRON RISER PRIVY

AS MODIFIED FOR WAR EMERGENCY USE

Contributed by
W. H. Gilmore
Senior Public Health Engineer

The first notice that iron and steel were to be rationed immediately raised questions in the minds of those members of the State Health Department's staff actively participating in the pit privy building program. "Will there be enough iron for the continued manufacture of cast iron risers (stools)?" "If cast iron risers cannot be obtained, what will be the best type privy to construct?" The answers to these questions could be had only by awaiting future developments and by thinking and experimenting.

Early in 1942, a questionnaire was sent to the various establishments engaged in the manufacture of approved cast iron risers, requesting information relative to the output of risers at that time and the possibility for continued production. The replies received indicated that an overly adequate supply could be produced to meet the anticipated demand for 1942. However, early in the summer, indications were that the necessary materials incidental to the manufacture of cast iron risers could not be readily obtained. Assistance was given by this department to manufacturers in making application to the War Production Board for priority rating for these materials. None of the applications was considered favorably. Yet, even at the present time (March 1943), risers are still available in most areas.

Immediately upon receipt of the notice that iron would be scarce, preparations were made to find a substitute for cast iron risers should they disappear from the market.

The first alternate considered was the State Board of Health standard all-wood privy. It was felt, however, that if some substitute could be found for the cast iron riser which could be replaced and the temporary privy converted into the standard concrete privy the public would be better served.

Substitute risers of concrete were first considered. However, a review of the department's many years of experience with

concrete risers indicated that they would not prove practicable from several standpoints. Also, in order to use concrete for this purpose most efficiently and effectively, steel forms would be needed. This type form would doubtless be exceedingly hard, if not impossible, to get.

After considering all available noncritical materials, it appeared that the best temporary riser could be made from wood. Although the quality of lumber available was low, it was believed that this substitute could be designed so that it would last until cast iron was again available. Soon various designs and plans were completed and experimental risers and privies were built. The sanitation officer of Montgomery County cooperated with members of the State Health Department on this work. One of the members of the Montgomery sanitation officer's staff, who is intensely interested in the work, advanced the suggestion on which the final design was based.

The temporary or "duration" privy which has been adopted by the State Board of Health as the structure to be used during the emergency, where cast iron risers cannot be obtained, deviates very little from the standard. In fact, it is the concrete slab, cast iron privy uncompleted.

The floor of the temporary privy is the decking of the pit which will be used as the form or support for the concrete slab when poured. This floor is constructed of tongue and groove flooring for fly tightness and strength. Ordinarily, 1″ x 12″ lumber or other which is deemed suitable is used to deck the pit. To provide safe support and longevity for the floor of the temporary privy, four supports (2″ x 4″ joists) have been added. A hole for the riser is provided in the floor. This hole is of such dimensions that any approved cast iron riser may be used when the privy is converted.

The riser (stool) which is removable is constructed of wood. The advisability of having a toilet seat which can be raised is fully realized and this point was very carefully considered. Yet, since this part of the privy is of a temporary nature, it was decided that the seat of the riser should be built as an integral part. This reduces the cost, simplifies construction, provides a stronger structure, and saves critical materials by eliminating the need for an additional pair of hinges and some nails which are extremely difficult to obtain.

The house or super-structure remains as it has been, although it will rest on the concrete sill or curb rather than the slab as it formerly did. It is anchored to this sill by five ¼″ bolts set in the concrete sill and passing up through the house sill at the same points as before modification. One-fourth inch bolts were selected because they will be easy to break or cut off when the concrete slab and cast iron riser are installed.

This modified war emergency privy has been developed in the above described manner for many reasons: chiefly, because it is believed that after several years of construction and use, the standard privy is nearer the ideal than any which has been developed; therefore, the least deviation possible from the standard plans and specifications the better. Too, this emergency structure can be converted into a standard privy for a relatively small amount of money. The conversion can be made by merely removing the riser, setting the house to one side, closing the hole, pouring a standard four-inch slab with cast iron riser in place and replacing the house. Like the standard privy this emergency privy is capable of being moved to a new location should the pit become filled.

Unless unforeseen emergencies develop, it is anticipated that, with the exception of three or four areas, relatively few privies of this type will be constructed. Except for these certain areas of the state it is not recommended that an extensive building program be undertaken at this time. Of course, there are certain instances all over the state where it is imperative that sanitary facilities be installed, and, when cast iron risers cannot be obtained, it is felt that the emergency privy should be used rather than the approved all-wood type. For this reason and for the sake of preparedness, the standard concrete slab and cast iron riser privy has been modified for war emergency use.

School Dental Programs—The protective dentistry and preventive medicine of a community is only as good as the work of the private practitioners in the community. We, public health physicians and dentists, must bear in mind that the private practitioner is the man who must apply our theory to the individual. Our ideals of early protection and correction of defects and regular health supervision are so many words unless the individual practitioner who sees the public, too late many times, both in dentistry and in medicine, understands these concepts.—*Wheatley, Am. J. Pub. Health, Feb.* '43.

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TETANUS TOXOID
Alum Precipitated

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LITERATURE AND PRICES UPON REQUEST





Miscellany

PHYSICAL TRAINING OF SOLDIERS IN COLLEGE MUST BE SECONDARY

A. M. A. JOURNAL SAYS A MAXIMUM UTILIZATION OF EDUCATIONAL FACILITIES IS THE MAJOR PURPOSE OF NEW MILITARY PROGRAM

The intensity and amount of exercise for the soldier-student under the new educational program to be inaugurated by the armed forces should be subordinated to the intellectual training if the essential purpose of the plan is to be realized, The Journal of the American Medical Association for February 13 declares in an editorial on "Intellectual Workers and Physical Exercise." The Journal says:

"Few studies have been made to determine the amount and nature of physical exertion which is optimal for those in sedentary occupations involving primarily concentrated and prolonged activities of the higher mental centers. Observation leads to the conclusion that most persons engaged in intellectual occupations take too little physical exercise for maximum health; most medical students, for example, are inclined



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Fellow of the American Psychiatric Association

to indulge little or not at all in physical exercise. Those engaged in intellectual endeavors report that strenuous exertion (usually when they are not used to it) results in an appreciable decrease in ability to make constructive intellectual efforts during the immediately subsequent hours or even days. Although such observations cannot be used as scientific evidence, the problem of balancing physical conditioning with maximum intellectual output is particularly pressing today, when the curriculums of schools devoted to advanced education are being modified to include conditioning for military service.

"The armed forces plan to induct all physically fit boys 18 years of age or older. By methods of selection which have not yet been announced in detail a number of these young men will be selected to attend colleges and universities. While attending these institutions they will be expected to engage in strenuous and prolonged intellectual endeavors. During this period they are to be paid and housed by the armed service involved and will be just as much in the military service as those in camp or at the front. They will be required, no doubt, to take certain physical hardening courses and sports, probably provided for specifically by the respective service involved.

"Good physical condition is favorable rather than detrimental to intellectual work. Nevertheless, the primary purpose of placing these soldiers in colleges and universities rather than at the battle fronts is to give them the intellectual training which they can receive only from the former source. The physical 'conditioning,' therefore, is the secondary rather than the primary consideration. The intensity and amount of exercise for the soldier-student should be subordinated to the intellectual training. In determining the amount of exercise required of soldiers in colleges and universities, cognizance must be taken of individual variability and of the hours and nature of mental concentration required. The program of physical training of student-soldiers must be carefully controlled with a view to determining the best combination. If the physical training interferes with the maximum utilization of the educational facilities, the major purpose of the announced program will have been hindered."

SULFONAMIDE DRUGS REPLACING SERUM IN CEREBROSPINAL FEVER TREATMENT

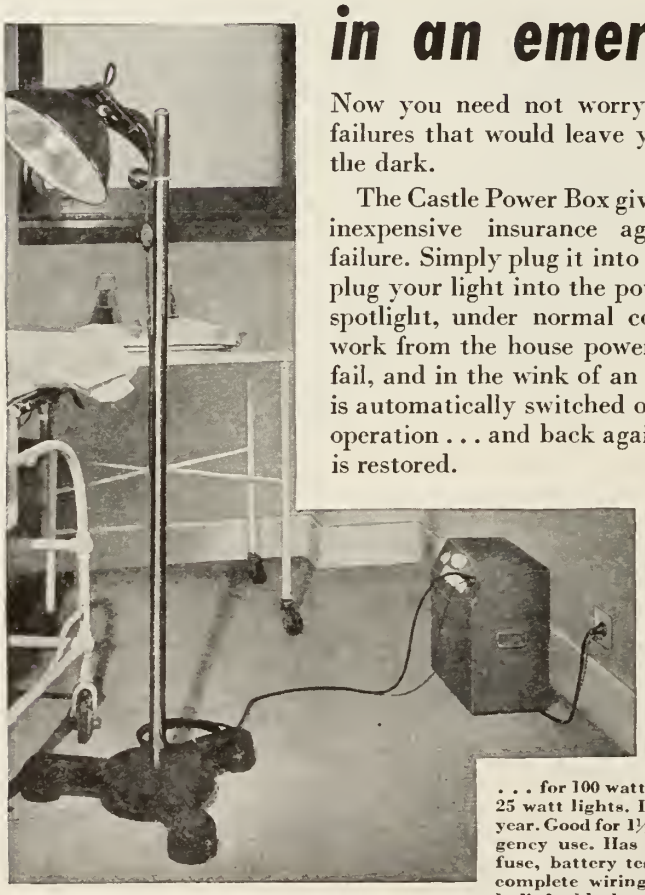
The increased incidence of the one-time highly fatal disease, cerebrospinal fever, associated with war is beginning to manifest itself, The Journal of the American Medical Association for February says in an editorial which points out that serum treatment, alone or in conjunction with the sulfonamide compounds, is being replaced with drug treatment alone, with highly effective results. The acute infectious disease also is known as meningococcic meningitis (inflammation of the three membranes that envelop the brain and spinal cord, due to infection by a strain of the meningococcus). The Journal says:

"The current increase in the number of cases of meningococcic meningitis in various parts of the country, which was to be expected in view of the military and industrial mobilization, has emphasized recent advances in the treatment of the disease. These improvements depend almost wholly on the use of the sulfonamide compounds. Until recently many clinicians experienced in this disease advised combined treatment with some form of antiserum and a sulfonamide compound at least for the more serious cases. . . . Accumulation of data seems now to show that drug treatment alone will bring better results than combination with such an agent as foreign serum, which, even when given intravenously, may initiate a considerable number of reactions.

"In England, for example, a statistically adequate number of patients treated with serum alone gave a fatality of 36.6 per cent as a whole. Of those under 1 year of age 67.2 per cent died, of those from 1 to 4 years 38.6 per cent and of those from 5 to 14 years 22.7 per cent. With sulfonamide compounds plus serum, of those under 1 year 32.5 per cent died, from 1 to 4 years 16.5 per cent, from 5 to 14 years 8.4 per cent, from 15 to 24 years 4.3 per cent, from 24 to 44 years 14.1 per cent and 45 years and over 32.3 per cent, with a total fatality of 13.8 per cent. Treatment with sulfonamide compounds alone gave better rates in each age group: under 1 year 22.4 per cent, from 1 to 4 years 12.3 per cent, from 5 to 14 years 5.5 per cent, from 15 to 24 years 2.5 per cent, from 25 to 44 years 6.6 per cent and 45 years and over 28.8 per cent, with a total fatality of 9.2 per cent. . . ."

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MONTGOMERY, ALABAMA

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THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

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PROTRUDED INTERVERTEBRAL DISKS

By

J. ORVILLE MORGAN, M. D., F. A. C. S.

Gadsden, Alabama

During the last few years, the subject of protruded intervertebral disks has been rather forcefully impressed upon us by the literature. This malady was not well understood until about eight years ago, and methods of making a positive diagnosis have been developed since that time. Today protruded intervertebral disks are being recognized with increasing frequency in all parts of the country.

SURGICAL ANATOMY

In order to understand this pathologic condition better, a brief review of the surgical anatomy is desirable. The normal spinal column has four curves. They are located in the cervical, thoracic, lumbar and sacral regions. It has been found that protruded disks occur more commonly at the points of greatest curve in the cervical, thoracic and lumbar portions of the spine. The greatest percentage occurs in the lower lumbar region.

A typical vertebra consists of a body, two pedicles, two laminae, two transverse processes and a spinous process. The body, pedicles and laminae enclose a foramen through which passes the spinal cord, or cauda equina, and its coverings. A notch exists in the lower border of each pedicle, and this notch, together with the pedicle beneath it, forms a foramen through which a spinal nerve passes. A protruded intervertebral disk may press upon and irritate a nerve before it leaves the vertebral canal.

The vertebral bodies are separated from each other by cartilaginous structures called intervertebral disks. The intervertebral disks are made up largely of fibrocartilage. The outer portion is arranged in a circular fashion and known as the annulus fibrosus. In the center of the disk, and enclosed by the annulus fibrosus, is a pulpy mass—the nucleus pulposus. When a protruded intervertebral disk exists, it is the nucleus pulposus which herniates or, in some cases, extrudes into the spinal canal. The fibrocartilage is separated from the adjacent vertebral bodies by thin plates of hyaline cartilage.

The vertebrae are held together by ligaments. The tips of the spinous processes are joined by the long supraspinal ligament. The main portion of each spinous process is connected to the one above and below by the interspinal ligaments. The laminae on each side are joined one to the other by broad, thick, yellow-colored ligaments known as the ligamentae flavae. The ligamentae flavae aid the bony structures in forming the vertebral canal. In some cases one of these ligaments may become abnormally thickened and press upon and irritate a spinal nerve. Camp[1] states that the symptoms and signs of this pressure may imitate all the clinical phenomena of a protruded intervertebral disk. The bodies of the vertebra are connected to each other by two long ligaments; viz., the anterior and posterior longitudinal ligaments. The latter is a thick but narrow ligament which supports and protects the intervertebral cartilage largely in the center of the posterior edge. This narrow ligament probably accounts for the fact that protrusions of intervertebral disks into

Read before the Clay County Medical Society, Ashland, Aug. 19, 1942.

From the Guice-Morgan Clinic, Gadsden, Ala.

1. Camp, J. D.: The Roentgenological Diagnosis of Intraspinal Protrusion of Intervertebral Disks, J. A. M. A. 113: 2024-2029 (Dec. 2) 1939.

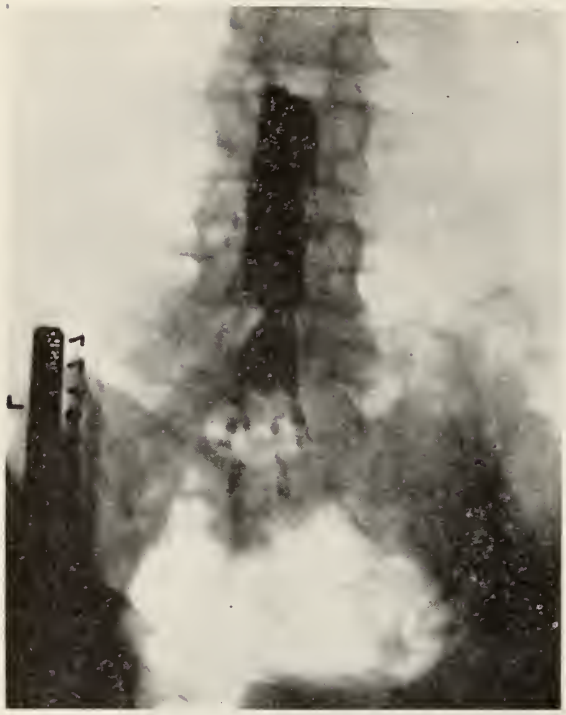


Fig. 1.—Typical defect production in column of iodized oil by protruding intervertebral disk.

the vertebral canal usually occur on one side or the other of the midline.

ETIOLOGY

Trauma is considered by most writers on this subject to be the cause of protruded intervertebral disks. Love and Walsh[2] report that in their series 32 per cent felt the pain or had other symptoms immediately after a certain injury. There was a history of trauma in 80 per cent of the cases reported by Barr, Hampton and Mixter.[3] Symptoms may not occur for weeks or months after the injury. Repeated trauma or long continued strain may result in degenerative changes in the annulus fibrosus allowing the nucleus pulposus to protrude or herniate. We have been able to get a history of definite trauma in less than 25 per cent of our cases. It is my impression that repeated trauma and long continued strain are more common causes than one specific injury.

2. Love, J. G., and Walsh, M. N.: Protruded Intervertebral Disks: Report of 100 Cases in Which Operation Was Performed, J. A. M. A. 111: 396-400 (July 30) 1938.

3. Barr, J. S.; Hampton, A. O., and Mixter, W. J.: Pain Low in the Back and "Sciatica," J. A. M. A. 109: 1265-1270 (Oct. 16) 1937.



Fig. 2.—Antero-posterior view showing defect in column of iodized oil in subarachnoid space. Note displacement of nerve root.

SYMPTOMS AND SIGNS

The symptoms of protruded intervertebral disks vary with the location of the lesion. Since, in the majority of cases, the protrusion is in the lower lumbar region, my remarks will be confined to cases with the lesion in this location. Pain is usually the outstanding symptom and, in the vast majority of cases, is what brings the patient to the physician. The most common complaint is low back pain, along with pain down the back of the thigh, and also in the posterolateral part of the calf. The pain may come on suddenly, following trauma, or may develop gradually. The severity of the pain varies greatly in different individuals. Some are able to continue with their work, and others require large amounts of analgesics. It has been pointed out by several observers that the pain is recurrent, with frequent,



Fig. 3.—Oblique view showing characteristic filling defect in column of iodized oil produced by protruding disk.

long periods of remission. Dandy[4] feels that recurrence and remission are such important features that he hesitates to make a diagnosis of protruded disk in its absence. Love and Walsh[2] state that the symptoms were intermittent in 86 per cent of their cases. The majority of our patients have had periods of remission. The pain is often accentuated by coughing or sneezing. This feature was present in 36 per cent of the cases reported by Love and Walsh.[2]

Areas of anesthesia and paresthesia are frequently complained of, and loss of sphincter control and muscular paresis occasionally occur. We have found some anesthesia and paresthesia in the majority of our cases. The most common complaint, in this respect, is impairment of sensation along the outer aspect of the leg just above the ankle. One case had loss of sphincter control and also some muscular weakness in the affected leg.

4. Dandy, W. E.: Concealed Ruptured Intervertebral Disks, J. A. M. A. 117: 821-823 (Sept. 6) 1941.

These patients are often observed to walk with a limp, and they may list to the affected side. A few of our cases have used crutches. A large number of these patients rise from a sitting position with the aid of the hands on the chair arms or knees. Rigidity of the spine, with a loss or partial loss of the normal lumbar lordosis, is a frequent finding. Absent or diminished Achilles reflex on the affected side with normal reflex on the opposite side has been present in the majority of our cases. Love and Walsh[2] found this sign to be present in 57 per cent of their cases. Limitation of straight leg raising, or Laseque's sign, was present on the affected side in all of our patients suffering with this malady. Dr. F. B. Lucas, of our clinic, has recently found that hyperextension of the straight leg, or deep pressure by the finger tips above Poupart's ligament on the psoas major muscle, maintained for about fifteen seconds, initiated or increased the pain and paresthesia on the affected side only in two of our latest three cases. In explaining this, we visualize the increased tension of the psoas muscle, when transmitted to the lumbar vertebral attachments, as increasing the protrusion of the disk by a process of vertebral compression.

X-RAY EXAMINATION WITHOUT CONTRAST MEDIA

Having made a tentative diagnosis of this condition from the symptoms and physical findings, we feel that x-ray examination, without contrast media, of the lumbosacral spine should be resorted to. Antero-posterior and lateral films are desirable. In several of our patients this procedure has revealed bony lesions diagnostic of other conditions, thus rendering further study unnecessary. Many observers state that a decrease in the intervertebral space of the affected disk is frequently evident on the film. While this is not diagnostic in itself, we have found it of aid in several of our cases. Banks and Compere[5] state that this was observed in one-third of the patients with protruded intervertebral disk studied by them.

LUMBAR PUNCTURE

Information obtained by lumbar puncture is frequently helpful. We believe that in these cases of suspected protrusion of an in-

5. Banks, S. W., and Compere, E. L.: Lesions of the Intervertebral Disk as Related to Backache and Sciatic Pain, Surg. Clinics of N. A. 19: 43-58 (Feb.) 1939.



Fig. 4.—Iodized oil has been introduced into the subarachnoid space by the modified technique of Kubik and Hampton. Note that the needle is still in place and part of the tubing can be seen.

tervertebral disk the puncture should be made as low as possible. If the needle can be introduced below the affected disk the Queckenstedt test may be positive to varying degrees depending upon the amount of block caused by the protrusion. This test has been of value in only one of our cases.

The first few cubic centimeters of fluid obtained should be examined to determine the total protein content. In the majority of our cases it has been above 40 mgm. An elevation of the total protein content of the spinal fluid suggests an irritation in the subarachnoid space. In the occasional case in which there is complete block, the fluid may be xanthochromic, and coagulate on standing.

X-RAY EXAMINATION WITH CONTRAST MEDIA

Some observers feel that in order to make a positive diagnosis of protruded intervertebral disk it is necessary to demonstrate a characteristic filling defect in the subarachnoid space by x-ray after injecting iodized oil, oxygen, or air through the lumbar puncture needle. Others believe that this is frequently unnecessary. Dandy[4] reports a series of 29 cases in which a positive diagnosis was made solely from the history and neurologic examination. In our latest four cases a positive diagnosis was made without contrast media and proven at operation.

We have used air, and also oxygen by the technique of Poppen as described by Haggart[6] in making spinograms in these cases, but in our hands these methods have not been satisfactory.

The filling defect caused by a protruding disk is shown more clearly by iodized oil than any other medium. This substance is not absorbed from the subarachnoid space and may be demonstrated by x-ray months or years after its injection. It may remain free in the subarachnoid space, become encysted, pass out along the nerve roots, or be demonstrated in the cranial cavity. On ac-

6. Haggart, G. E.: The Diagnosis of Sciatica and Low Back Pain Due to Herniation of Intervertebral Disks, Surg. Clinics of N. A. 21: 889-894 (June) 1941.



Fig. 5.—The greater portion of iodized oil has been removed. Compare with Fig. 4.

count of its lack of absorption many investigators hesitate to use it, although there is no definite proof that its presence is harmful. In a series of more than 100 cases, Barr, Hampton and Mixter[3] observed no permanent ill effects which could be attributed to the use of iodized oil in the subarachnoid space. We have noted a rise in temperature of from one to two degrees following the injection which subsided in from 24 to 48 hours, and also an occasional headache. In our cases no other ill effects have been observed.

Until recently it was our practice to inject from 3 to 5 cc. of descending iodized oil into the subarachnoid space with the patient in the sitting position. He was then placed on a fluoroscopic table, face down, and the oil was observed to flow up and down as the table was tilted. We were careful not to move the table too rapidly and thus cause the pool of oil to separate. Any filling defects were noted, and rechecked to determine whether or not they were persistent. X-ray films were then made for more thorough study and permanent record. No attempt was made to remove the oil unless the patient came to operation.

At the present time, if we deem it necessary to use iodized oil, we use the modified technique of Kubik and Hampton as described by Haggart, Albers and Zintl.[7] The patient is placed face down on the fluoroscopic table, and sufficient padding is placed under the lower abdomen and pelvis to eliminate the lumbar lordosis. After anesthetising the tissues between the spinous processes of the third and fourth lumbar vertebrae, a 17-gauge spinal puncture needle is introduced exactly in the midline through this space. When it is thought that the needle is almost ready to puncture the dura, it is checked with the fluoroscope to see that the point of the needle is exactly in the midline. When the position of the needle is satisfactory, the point is pushed through the dura into the subarachnoid space. Having obtained a free flow of spinal fluid, we inject about 0.5 cc.

7. Haggart, G. E.; Albers, J. H., and Zintl, W. J.: The Introduction and Removal of Lipiodol for Spinogram Studies. Surg. Clinics of N. A. 22: 857-864 (June) 1942.



Fig. 6.—Needle, tubing and syringe used for introducing and removing iodized oil by the modified technique of Kubik and Hampton.



Fig. 7.—Useful instruments in the operative treatment of protruded intervertebral disks. a. Hurd tonsil dissector for retracting the dura. b. Small scalpel for removing the ligamentum flavum. c. Kerrison bone forceps. d. Ordinary rongeur.

of iodized oil. The stylet is then introduced into the needle and the position of the oil noted by the fluoroscope. It is important to see that the oil moves as the table is tilted. The remainder of the oil, usually about 3.5 cc., is then injected. The stylet is reintroduced, and the needle is not removed but is covered with a sterile towel. X-ray examination is carried out as above described.

After completing the x-ray examination, we remove as much of the oil as possible through the spinal puncture needle, which has been left in place. An adapter, to which has been attached a 3-inch angulated piece of glass tubing, a 15-inch length of non-collapsible rubber tubing of approximately the same caliber, and a 5 cc. glass syringe, is attached to the needle. With the patient in the position as described above on the fluoroscopic table, the pool of iodized oil is caused to flow to such a position that its center is directly under the point of the needle. This is done by tilting the table while viewing it with the fluoroscope. Gentle suction is made and the oil is gradually drawn into the syringe. By viewing with the fluoroscope occasionally, and tilting the table when necessary, the pool of oil can be kept directly under the point of the needle and more or less of the oil removed. We have been able to remove the major portion of the oil in our cases.

As indicated above, we are coming to depend less and less on the use of x-ray examination with contrast media in arriving at a positive diagnosis of protruded intervertebral disks. The symptoms are so characteristic and the neurologic findings so definite, there is usually little doubt as to the existing pathology. Dandy[4] has shown that a protruding disk which is causing symptoms may occasionally fail to be demonstrated by x-ray with iodized oil. Without the use of the oil, it may be difficult or impossible to know exactly which disk is protruding and multiple lesions may be overlooked. However, since the advent of the comparatively simple, non-mutilating operation now generally used for this condition, two or more intervertebral spaces may be explored with little if any added damage to the patient. This fact, in my opinion, largely compensates for the disadvantage of not being able to exactly locate the lesion or lesions when the oil is not used.

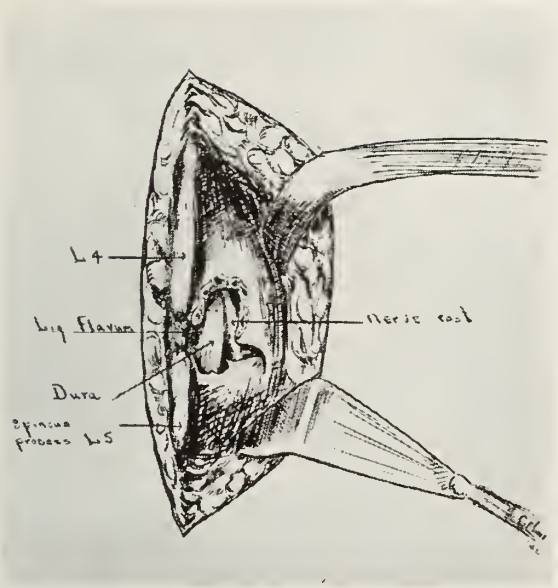


Fig. 8.—The ligamentum flavum, a part of the lamina above and a very small part of the lamina below have been removed. The dura and a nerve root can be seen. Note that the spinous processes have not been removed and notches have been cut in the lamina.

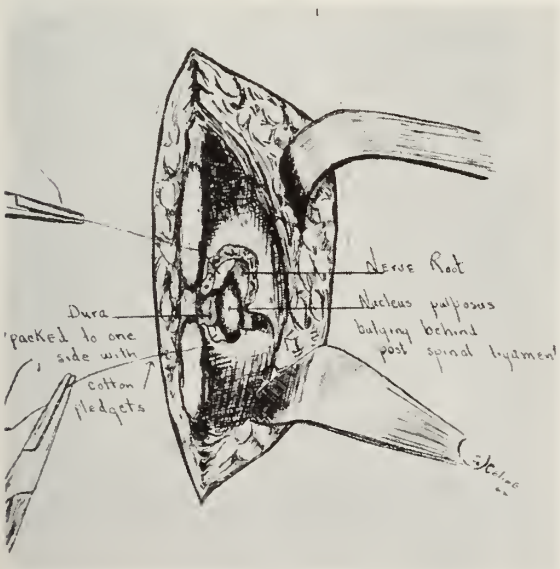


Fig. 9.—The dura has been retracted medially and held in that position by pledgets of cotton to which black silk sutures are attached. The herniated nucleus pulposus can be seen with the nerve root lateral to it.

TREATMENT

The curative treatment of this condition is the surgical removal of the herniated nucleus pulposus. In the early days of surgery for



Fig. 10.—The posterior longitudinal ligament has been incised and the nucleus pulposus is extruding through the opening.

protruded intervertebral disks, a fairly extensive laminectomy was carried out. In some cases the disk was approached transdurally, but usually extradurally. When the extensive laminectomy was done, some surgeons felt that it was desirable to do a bone graft to aid in strengthening this portion of the spine. In our first cases, when we did the classical laminectomy, we did not feel that it was necessary to resort to bone graft, and these patients after a few months were practically free from evidence of vertebral weakness.

As familiarity with this condition has increased, simplified and less mutilating techniques have been developed. We have not found it necessary to do more than a partial laminectomy in any of our cases in the past three years, and occasionally are able to complete the operation through the opening made by the removal of the ligamentum flavum only.

At the present time our technique is comparatively simple. An incision about four inches long is made in the midline of the back with its center over the interspinous space of the affected disk. The tips of the spinous processes are exposed and the periosteum is stripped from the spinous processes on the affected side. The muscles are separated from the laminae and retracted laterally. The ligamentum flavum over the

protruding disk is separated from the laminae above and below and removed with a small scalpel. It is occasionally possible after doing this to retract the dura and expose the disk. This is especially true if the affected disk is between the fifth lumbar vertebra and the sacrum. Usually, however, it is necessary to remove a part of the lamina above and occasionally a very small amount of the one below in order that sufficient space may be obtained. We have found that a very satisfactory instrument for retracting the dura is the Hurd tonsil dissector. We then use two moist pledgets of cotton, to which is attached a few inches of black silk suture, to pack into the space between the dura and the lateral wall of the spinal canal above and below the opening between the laminae. The retractor (tonsil dissector) can then be removed, and adequate exposure of the underlying disk is maintained. The herniated nucleus pulposus can easily be seen and felt with an instrument. A small incision is then made in the posterior longitudinal ligament or the annulus fibrosus, and the nucleus pulposus comes into view. In many cases when this incision is made the nucleus pulposus can be seen to actually partially extrude. It is then easily removed with suitable forceps. After hemastasis is accomplished the deep fascia and skin are sutured.

POSTOPERATIVE MANAGEMENT AND RESULTS

The postoperative management is very simple. The patient is allowed to assume any position in bed he desires. Comparatively little analgesic drug is necessary. At present we are keeping the patients in bed about seven days, and are allowing them to return to work in from six weeks to three months.

The results are usually excellent. The original pain in the leg has been entirely relieved immediately after operation in all of our cases. Most of the patients complain of pain in the region of the incision for a few days, and soreness persists in the back for a few weeks. All of our patients have been able to return to their original occupation in from six weeks to three months.

ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943

LEUKEMIAS, HODGKIN'S DISEASE AND LYMPHOSARCOMA

BRIEF DISCUSSION AND TREATMENT

By
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It is generally accepted that leukemia is a disease of the leukocytic forming tissue, and the abnormal findings in the blood picture are manifestations of the disease.

The character of the leukocyte is important, particularly the total leukocyte count. In some leukemias the leukocytes are increased even to four hundred thousand. In the resting phase the count may be within normal range; the so-called aleukemic leukemia (pseudo-leukemia) has no increase in the total white cell count, but the character of the leukocytes are altered.

There has been considerable question as to the nature of leukemia, infection, deficiency state and neoplastic. The neoplastic theory has the greatest following at present.

Leukemia was described with autopsy findings by Virchow, and in the same year Hughes-Bennett presented a case with autopsy support. This was in 1845, which started our present knowledge of leukemia.

More cases are reported in males than females; and about an equal number between the myeloid type and the lymphoid type.

Acute lymphoid leukemia is most often found in early life before the twenties. Chronic myeloid leukemia is present most often in middle life, usually between twenty-five and forty years. Chronic lymphoid leukemia is found in later life.

The general symptoms and physical findings are similar in the various chronic types of leukemia. The patient becomes weak, there is loss of appetite, general malaise, pallor, discomfort in the abdomen if the spleen is very large; cough, if mediastinal nodes are involved, as they often are in the lymphoid type; dyspnea, pain, edema of legs and face, fever, skin rashes, hemorrhage from the mouth, throat and rectum; cachexia and death.

ACUTE LEUKEMIAS

Acute leukemias are usually not diagnosed until patients are morbidund, and usually one cannot say more than acute leukemia, as the blood picture is often of a mixed type rather than a definite myeloid or lymphoid

type, and the patient generally dies before the true characteristic blood picture is established. This is especially true in very young children. The usual symptoms and findings are an acutely ill patient with anemia, hemorrhage from the mouth, nose, gums and intestinal tract, fever, weakness, often enlarged nodes and with a high leukocyte count. In a young person these usually indicate acute leukemia with a very poor prognosis. (At this point I would like to stress the differentiation which should be made between acute mononucleosis, or so-called glandular fever, and the true leukemia, particularly the acute type. This can be satisfactorily done by use of the heterophile body reaction, and often the blood smear will be of considerable aid, although, at times, not completely diagnostic.)

CHRONIC MYELOID LEUKEMIA

Chronic myeloid leukemia has an insidious onset: weakness, loss of weight, pallor, pain in abdomen, gastric discomfort, dyspnea, anemia, increase in metabolism as noted by a sense of warmth; tumor in the left abdomen due to enlargement of the spleen, bleeding from gums, intestines, and, in females, abnormal menses; enlarged lymph nodes and liver in the later stage. There may be periods of spontaneous remission with marked improvement. These phases are followed periodically by exacerbation, by recurrence of symptoms, and the typical blood picture. The blood picture reveals a leukocyte count of several hundred thousand, and typical changes in the blood smear with numerous types and ages of myeloid cells. Moderate hypochromic anemia progresses slowly. The blood should be studied by competent pathologists, as often there is leukemic reaction to other noxious agents, and after the cause has been removed the blood returns to normal.

The diagnosis depends on a careful history, physical findings and the blood study. If one cannot make a diagnosis from the above symptoms, physical and blood study, biopsy of one of the lymph nodes is justifiable. This should be studied microscopically by a qualified pathologist. Sternal puncture and a study of bone marrow is a method fully justifiable. The prognosis is always poor, with death within three years in most cases from the date of onset. A few cases live five to ten years.

CHRONIC LYMPHOID LEUKEMIA

The patient is usually a male, and some older than the myeloid types. The onset is very slow with general complaints; weakness, loss of weight, painless enlargement of the spleen and liver, skin rash with pruritus; and there may be periods of spontaneous remission with phases of exacerbation. The blood study shows the leukocytes to be increased to more than a hundred thousand in a majority of cases. The blood smear shows the lymphoid cells to be increased in number. They vary in maturity, and there is moderate hypochromic anemia.

The diagnosis is made from the history, physical examination and blood study. Often biopsy of the lymph nodes, with microscopic study, and marrow smears from sternal punctures are necessary. The prognosis is poor, but the duration of life after diagnosis is longer than in other leukemias. Some patients may live from four to ten years.

The treatment of chronic leukemia, both the myeloid and lymphoid, will be grouped. The general health of the patient should be kept at the highest level with diet, rest, tonics, iron, transfusions and vitamins. Perhaps the best drug is Fowler's solution. Radiation therapy, if given in small doses, will make the patients more comfortable, and prolong their useful life. The patient should be watched closely. Do not give too much treatment. The blood picture should be watched every day while the patient is getting radiation therapy. The treatment should not depend on the blood count only. If the symptoms subside, and the patient is comfortable with a high leukocyte count, do not treat; often patients feel worse with a low count. Guard against severe anemia. Blood chemistry study is helpful, as uremia is a common complication.

The basal metabolism may be very useful in watching the progress of leukemia. An elevated basal metabolism rate is often a forerunner of recurrence. If this is realized, a small dose of radiation may prevent a more serious relapse. The methods of treatment with radiation will vary in chronic myeloid leukemias. With enlarged spleen and pressure, one can treat over the spleen with 50 to 150 r every few days until the patient gets relief, or until the leukocytic count has been considerably reduced. The smaller the dose the better. Usually after several recurrences the dose has to be increased. Radiation over

the long bones and sternum is often preferable in reducing the leukocyte count.

In chronic lymphoid leukemia with large nodes, it may be best to treat the large nodes first, and the long bones, spleen, liver and lungs later. Do not try to bring the count to normal. As soon as the patient becomes comfortable, and the leukocyte count begins to show considerable decrease, stop treatment and watch the blood picture and general state of the patient's health closely. In the resistant cases as stated previously, general body radiation with small doses of 5 to 15 r may be the treatment of choice. One should treat the complications as they occur, such as bone destruction, skin complications, and numerous other local phases of leukemia. One can often make the patient more comfortable and prolong his useful life. Arsenic, iron and liver preparations given between x-ray cycles are beneficial. Arsenic in the form of Fowler's solution has been in use for years and is still found to be the most dependable drug to prolong the life of leukemic patients. Iron and liver help to combat secondary anemia.

HODGKIN'S DISEASE

Hodgkin's disease is a fatal affection of unknown cause. It is characterized by progressive painless enlargement of the lymph nodes, weakness, loss of weight and fever.

The histopathology of Hodgkin's disease is characteristic. The lymph nodes and involved tissue are composed of a connective tissue reticulum supporting a variety of cells, including small and large lymphocytes, mononuclear cells, plasma cells, eosinophils and multinuclear giant cells. (Reed-Sternberg.) The normal structure of the lymph node is later replaced by more fibrosis with a resulting partly fixed, firm lymph node.

The symptoms and physical signs are quite variable. The disease is usually insidious and very few patients come to the physician until there is lymph node enlargement, usually cervical. Hodgkin's disease may involve the mediastinum, resulting in cough and dyspnea. Cyanosis, weakness, loss of weight, fever, night sweats, and often bone destruction and pruritus, are all common symptoms. The disease progresses slowly, with increased weakness, anemia, and later cachexia. The spleen and liver become enlarged, and there is bone involvement in twenty per cent of cases, with pain and complications of bone destruction. The blood picture is not diagnostic. There is moderate leukocytosis with a relative lymphocytosis. Eosinophilis are increased, and there is progressive hypochromic anemia.

In making the diagnosis the conditions to be differentiated are lymphosarcoma, tuberculous adenitis, lymphoid leukemia, metastatic carcinoma, syphilis, and perhaps chronic infections with lymph node involvement. The diagnosis can be confirmed only by a microscopic study of one of the involved lymph nodes. The disease may be local and grow very slowly, but later extends to adjacent structures or to distal organs. There are no organs exempt from Hodgkin's disease.

Many types of therapy have been advocated, as well as vaccines and serums, with no lasting results. Various drugs have been tried with very little encouragement. Fowler's solution has more value than any of the drugs. Surgery is not necessary other than for biopsy and in very rare cases where the tumor is radioresistant.

The treatment of choice is radiation therapy. This may be given with medium voltage, or with the conventional two-hundred-thousand volt x-ray machine. The treatment is given to the enlarged nodes in small doses and repeated when symptoms recur. One cannot cure Hodgkin's disease by radiation unless it is a small, early, local growth, and these are very, very uncommon. Each case should be watched closely, giving treatments only where there are symptoms causing discomfort. Patients may be carried over years by watching closely and using small doses of radiation. The spleen and liver may be treated in the late stages, especially after the localized nodes have become radioresistant. General body treatments are often helpful in the generalized resistant phase of Hodgkin's disease. Craver has used the Heublein method at Memorial Hospital, N. Y., with encouraging results.[1]

One should look for possible involvement of bones, skin, intestines, mesentery nodes, lungs and nervous system, and treat each condition as it presents itself. Patients may be made comfortable and useful for years if managed carefully. Lawrence and his coworkers at the University of California have

1. The Heublein method is a modified general body radiation given in minute doses with long focal skin distance over a number of days or even weeks.

used artificial radioactive salts with encouraging results, although this is still somewhat in the experimental phase and should not be used outside of special centers.

The general health of the patient should be closely guarded. General supportive methods are useful, such as tonics, vitamins, iron, small doses of barbiturates, salicylates and codeine for rest.

LYMPHOSARCOMA

Lymphosarcoma is a local or widespread malignant neoplasm arising in the lymphoid tissue and composed of lymphocytes, large, small, or perhaps reticulum cells. The tumor may arise in local lymph nodes, or widespread nodes may arise in lymphoid tissue as in the pharynx, tonsils, mediastinum, stomach, mesentery, retroperitoneal, Peyer's patches of intestines, and any place where there is lymphoid tissue. Metastasis is usually by lymphatics and rarely by the blood stream. As is usually noted in sarcoma, lymphosarcoma is very radiosensitive. There is a close relationship between lymphoid leukemia, Hodgkin's disease and lymphosarcoma. Mallory believes they are all neoplastic and should be grouped under the one heading of lymphoblastomas.

Lymphosarcoma is most often found in males, both in early and late life but more frequently in early life. It is less common than Hodgkin's disease. The diagnosis of lymphosarcoma is by exclusion of Hodgkin's disease, lymphatic leukemia, metastatic carcinoma, syphilis, chronic infection, tuberculosis and similar conditions. The blood picture does not help other than that there is moderate hypochromic anemia and a later moderate leukocytosis. The basal metabolism is not elevated as in the leukemias. Lymphosarcomas are very radiosensitive even to small doses of radiation. This may be a diagnostic point. Biopsy is the best diagnostic procedure. Histologically there is noted an invasive lymphoid growth with involvement of surrounding tissue. The cells are all small or large, usually mature, and there may be reticulum cells. These may be subdivided into small round cells, large round cells, or reticulum cell types, or often mixed. Lymphosarcoma may terminate as a true lymphoid leukemia.

Lymphosarcoma may progress rapidly and death occur within a few months. Some individuals may live for ten or twelve years. The usual life is from two to three years. In cases of small local growth there are chances of complete cure for as much as twenty to twenty-five years if large doses have been given.

General care of patients should include diet, rest, sedatives and tonics. Mental support is particularly important. Drugs have no specific effect on the course of the disease. Radiation therapy is the best treatment. The local masses respond quickly to small doses of x-ray, but are prone to occur elsewhere. In case one has a local growth and gives large enough doses to destroy it, there may be a complete cure. Most of the time there are multiple sites even if they are not demonstrated. In case there is general involvement small doses of radiation to the involved site is better than large doses. If the lesion is local, the large dose should be given not only to the local area but the lymph nodes which drain that area. This point is very important, and in every case where there is a possibility that the growth is local one should radiate heavily, not only enlarged nodes but the entire lymph drainage of that area. General body or spray radiation may offer much in case of general lymphosarcomas. Radioactive salts used by Lawrence, as previously mentioned, may be useful in management of lymphosarcoma, but so far are not preferable to our present methods.

In reviewing the patients from the Radiologic Department of Mobile Infirmary from 1932 through 1942, we are able to gather the following: 26 cases of lymphosarcoma, 21 cases of Hodgkin's disease, 12 cases of lymphoid leukemia and 7 cases of myeloid leukemia.

In breaking these down a little more in detail, there were 16 male cases of lymphosarcoma, 10 females and 4 children. The average age was late forty. There were 10 cases alive, 8 of these apparently well. Two are alive with disease, 14 known dead and 2 cases we are unable to follow. The following locations were involved: neck, chest, axillary region, retroperitoneal and stomach.

Hodgkin's disease: 21 cases; 12 males, 9 females; 13 dead, 8 living without evidence of disease, one living with evidence of disease; 3 unable to follow. The deaths occurred from four weeks to five years. The

complications were pulmonary metastasis, bone metastasis and skin metastasis.

Chronic lymphoid leukemia: 12 cases; 7 males, 5 females; all dead from three weeks to two and one-half years. There were two children. The remainder were elderly individuals.

Myeloid leukemia: 7 cases, all dead. Lived from three months to two and one-half years. No children. The majority of cases occurred in adults of middle age.

No cases of acute leukemia reported, as none were treated by radiotherapy.

SUMMARY

Leukemias and lymphoblastomas have been discussed. The acute lymphatic leukemias and acute myeloid leukemias have a very poor prognosis and radiation offers little. Patients with chronic myeloid and chronic lymphoid leukemias can be made more comfortable and their useful life prolonged by the guarded use of radiation therapy and general management. Lymphoblastomas, both of the Hodgkin's and lymphosarcoma types, can be made more comfortable by the use of radiation, and their useful life can be prolonged. In a few cases life may be prolonged ten to fifteen years. If the lymphosarcoma is truly local, one may get a complete cure if large doses are given to the local growth and surrounding lymphatic drainage; this is true only in a few cases, as true local lymphosarcomas are rare. The numerous treatment methods, such as radioactive salts, cyclotron, eggwhite and numerous other newer methods, should not be adopted until the experimental phase has passed. Radiation is the method of choice in chronic leukemias and lymphoblastomas until some better method has been presented.

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INJURIES OF THE URINARY TRACT

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The incidence of injuries to the urinary tract during the past two decades has markedly increased. This can be attributed to high speed transportation and our highly mechanized industrial life. If the foregoing is a fact, is it not reasonable to presume that in the present conflict, the most highly mechanized war in history, that there will be a still greater increase in such injuries? It is the intent of this paper to discuss the diagnosis and treatment of these injuries.

In all severe injuries, especially those of a crushing nature, a part of the routine examination should include the investigation of the urinary tract. All such patients should be urged to void. If this is impossible, catherization should be done. If grossly clear urine is obtained, in all probability no serious urinary injury is present. If, on the other hand, the urine is bloody, and the condition of the patient permits, intravenous urography should be done.

Read before the Association in annual session, Montgomery, April 22, 1942.

This procedure may not only help to determine the location and type of the injury but also prevent such an injury from going unrecognized until complications have set in. If the intravenous urogram is of no diagnostic value, bearing always in mind the condition of the patient, cystoscopy and retrograde pyelograms are indicated. Such means that early recognition and adequate treatment can be instituted.

An injury to the urinary tract having been demonstrated, the majority of us would readily know what type of operation is indicated, but the all important questions are when to operate and how to treat the case postoperatively so as to insure the least possible disability in later years. We should most certainly endeavor to return the patient to society with the least possible impairment of function.

INJURIES TO THE KIDNEY

Injuries to the kidney can be divided into two groups: (1) subparietal or closed wounds and (2) open or penetrating wounds. In subparietal injuries there is no evidence of external injury, except, at times, a discoloration of the skin in the ileocostal area or the upper abdominal quadrant. They usually result from (a) direct trauma over the site of the kidney by a blow, a fall or a crushing force or (b) by indirect trauma, as falls on the feet or buttocks. They vary in degree from a contusion, with moderate or slight hematuria, to severe lacerations with massive hemorrhage and profound shock. In such injuries the outstanding symptoms are hematuria, localized pain, muscle rigidity, shock, and a gradually increasing swelling over the injured kidney. Of these hematuria is the most constant sign of kidney damage but is by no means characteristic. It is usually noted at the first voiding and is usually persistent but moderate or varying in amount. It may be intermittent. Pain and muscle rigidity are seldom absent. The pain may vary from a dull steady ache to a severe colicky attack. This latter is usually caused by the passage of blood clots down the ureter. Shock is as a rule mild and transitory if no grave renal injury is present. Serious shock is most suggestive of associated injury to one or more abdominal organs or to hemorrhage. A gradual increase in the size of swelling over the injured kidney is due to extravasation of urine or blood or both into surrounding tissues.

Diagnosis: With a history of an injury and the aforementioned symptoms, a kidney injury may be strongly suspected but a positive diagnosis cannot be made by these alone. A valuable aid, as previously mentioned, is intravenous pyelography. Whenever possible, it should be used in every suspected renal injury. If this proves unsatisfactory and the necessity of determining the origin of the bleeding is important, cystoscopy and, if necessary, retrograde pyelography is indicated. By it can be determined the source of the hematuria and the function of the uninjured kidney.

The symptoms of penetrating wounds vary little from subparietal wounds, except there is a wound of entrance and most frequently there are other organs involved. There is no leakage of urine from the wound unless the kidney pelvis or the ureter has been penetrated.

Treatment: This is expectant or operative. Expectant treatment is most certainly the one of choice. However, one should be prepared to operate whenever there is a rise in temperature or leucocyte count, or increase in the size and tenderness of the tumefaction.

Immediate operation should be undertaken, first, if hematuria is so severe and persistent as to endanger life, indicated by increasing pallor, rise in the pulse rate and decrease in volume, and a steady decline in the red cell count and hemoglobin; second, if signs of internal hemorrhage are increasing, even if the amount of blood in the urine is only moderate; third, if one is suspicious of associated injuries to the abdominal viscera; fourth, in secondary hemorrhage, which endangers life; and, fifth, if evidences of infection appear, as manifested by elevated temperature, chills and increasing tenderness and fluctuation in the affected kidney area.

Expectant treatment consists of absolute rest in bed for three to four weeks even if hematuria has been slight or has disappeared. Naturally, if the hematuria persists or returns on exertion, exploration is indicated.

Operative treatment consists in exploring the injured kidney and determining then what is to be done. This may vary in degree from a simple repair of a small laceration to a nephrectomy. Let me here plead for conservatism in whatever is done. Remember that half a kidney is better than none. If

the renal blood supply has not been too severely interrupted, do a heminephrectomy rather than a nephrectomy. Repair lacerations to the cortex, not with mattress sutures but with the broad ribbon gut as advocated by Lowsley. It is true these tears will heal with fibrous tissue and no tubules will be generated, but at least you will have some remaining functioning kidney tissue.

URETERAL INJURIES

Injuries to the ureter have the same causative factors as injuries to the kidney, with the additional factor of surgery. Fortunately they are rare.

INJURIES TO THE BLADDER

Bladder injuries also can be divided into two groups: (1) penetrating, due to penetration of the viscus by foreign bodies, and (2) ruptures due to increased intravesical pressure from forces within or without.

Penetrating wounds may have only a wound of entrance but usually have one of exit also, especially if due to stabs or bullets. Wounds due to shell fragments or fractures of bone usually are irregular and may be single or multiple.

Ruptures of the bladder, it must be remembered, can only occur when the bladder contains fluid, and the one that is most distended is the one that is most easily ruptured. The site is usually in the fundus on the posterior wall due to the fact that the base and lateral walls are supported and protected by the surrounding bony pelvis. They are caused by falls, blows (as kicks over the bladder) and by crushing forces.

Symptoms of bladder injuries, whether of penetration or rupture, do not differ in any essential respect. They are shock, pain, inability to urinate, rigidity of the abdominal muscles, with pain on pressure over the lower abdomen, and evidence of prevesical infiltration.

Shock is usually transitory unless the injury is accompanied by fracture of the pelvis or injury to the abdominal viscera. Pain is practically constant and from the beginning. If the rupture is extraperitoneal, the pain is confined to the lower abdomen, and may radiate to the perineum, penis and legs. If intraperitoneal, the pain soon takes on the characteristics of peritoneal pain, associated with abdominal distention, nausea and vomiting. The desire to void is usually urgent, frequently associated with tenesmus, but no urine can be passed unless the rupture is slight. If any urine is passed, the quantity is small, usually bloody, and passed with much effort and pain. Rigidity of the abdominal muscles and pain on pressure are found in all wounds of the bladder; and if there is a steady and definite increase in these symptoms, associated with increase in pulse rate and nausea and vomiting, beginning peritonitis should be suspected. Evidence of infiltration around the bladder is usually a late symptom, seldom occurring before the end of 24 hours. It indicates the extravasation of urine into the tissues surrounding the bladder. It is accompanied by a rise in temperature, increase in pulse rate and leucocyte count, and greater tenderness.

Diagnosis: By these symptoms and a history of injury, a ruptured bladder may be suspected, but a positive diagnosis cannot be thus made. The inability to void will naturally lead to the use of the catheter. This may be of great aid in arriving at a diagnosis, by the use of air or a sterile fluid for distending the bladder. If x-ray facilities are available, we prefer the use of air as follows: After the usual precautions to prevent infection have been taken, a catheter is introduced into the bladder and 300 to 400 cc. of air instilled. With the patient lying on his left side, a film is taken. If the bladder is intact, its outline is rounded and regular. If an extraperitoneal rupture is present, the air will be seen in the pelvic tissues or prevesical space. If the rupture is intraperitoneal, the air will be seen between the coils of the intestines and as a translucent layer just beneath the peritoneum of the anterior abdominal wall.

If the x-ray is not available, a measured quantity of sterile water is introduced through the catheter. If no rupture is present, at least an equal volume of water will be withdrawn. If only a small amount is recovered, a bladder rupture may be suspected.

Treatment: All cases of ruptured bladder should be operated on as early as possible, for delay may mean death from peritonitis, or at least an extravasation of urine into surrounding tissues, resulting in a much longer convalescence.

Operation consists in opening the bladder suprapubically, and locating and closing the rupture. If the rupture extends into the peritoneum, the abdominal cavity must be

opened and both the tear in the bladder and the peritoneum closed. Abdominal drainage is safer than a complete closure. If the rupture is extraperitoneal, the perivesical tissues should be drained after the rupture has been closed. All bladder ruptures should be drained suprapubically.

RUPTURE OF THE URETHRA

Rupture of the urethra may be caused by penetration (either from within by instruments or from without as by bullets or cutting objects), by being crushed against the pubic bones, by a fall or by blows in the perineum, or by being torn in fractures of the pelvis, the urethra being punctured and lacerated by fragments of bone. Rupture may occur in the penile, membranous or prostatic portion.

Diagnosis: Early, first symptoms are bleeding from the meatus (unassociated with voiding), pain, inability to urinate or difficulty in urination, and urinary retention. Bleeding from the meatus is always present in injuries to the urethra, except where the bleeding may be into the bladder or surrounding tissues. Pain and swelling are always present also and varies in intensity according to the extent and location of the injury. Difficulty in urinating appears at once, the patient passes but little urine and at each succeeding voiding the swelling in the surrounding tissues increases in size and the pain becomes more severe. Finally, there may be an acute retention due to edema of the prostatic urethra or to the extensive trauma. In all urethral injuries the patient should be urged to void. If unable to, a soft rubber catheter should be introduced not only to obtain urine but to determine the location and the degree of injury. In complete ruptures the catheter cannot be passed into the bladder, and even in incomplete tears great difficulty may be had in passing the catheter into it. If the catheter seems to be introduced a sufficient distance to enter the bladder and no urine is obtained, it is wise to examine by rectum. Frequently the catheter will be felt posteriorly to the bladder.

Treatment: All ruptures of the urethra, in our opinion, should be operated on except those cases in which the rupture is small and located in the penile portion. In such injuries the passage of a soft rubber catheter into the bladder and allowing it to remain varying lengths of time is sufficient. All other injuries should be operated on and the ruptured urethra closed. This should be done as soon as practicable after the injury is sustained. Only by so doing can the terrible aftermath of extravasation be avoided or lessened. We disagree with those authorities who say that if a catheter can be introduced into the bladder an operation is not needed, and that perineal drainage will suffice. It is our experience that all ruptures of the urethra heal quicker and with fewer bad results if the urine has been diverted by suprapubic cystotomy. In every rupture of the urethra there are two sequelae which we try to avoid; namely, stricture and fistula. Of the two, stricture is far more formidable. We feel that the incidence of both can be greatly reduced by proper operative procedure and aftercare. As was said before, we believe that all ruptures of the urethra, except the very small lesions of the penile portion, do better with diversion of the urinary flow. In moderate or large ruptures of the penile portion, after repairing the urethra, this can be accomplished by an external urethrotomy and drainage by catheter through the perineum. When the rupture is in the bulbous or posterior portions, suprapubic cystotomy, perineal section and an indwelling urethral catheter is the method in our hands which has given the best results.

Perineal section evacuates clots and extravasated urine if present and exposes the injured area. If the rupture is incomplete, it is easily identified; and the tear in the urethra should be closed over a soft rubber catheter with fine catgut sutures. In a complete or total rupture it may be difficult or impossible to find the severed bladder end. Rather than undergo a prolonged search for the lost portion, a suprapubic cystotomy and retrograde catheterization are preferable. The ends having been located, they should be brought together or splinted over a soft rubber catheter by a few extra mucosal sutures of fine catgut. If infection and extravasation are present, do not close the perineal wound; otherwise the perineum may be closed with adequate drainage. With the soft rubber catheter in the urethra, the bladder is drained suprapubically.

It has been our experience that the management of the indwelling catheter is a most difficult proposition. In those cases of rupture of the penile urethra, in which a cystotomy in not done, the modified Foley bag

will be of great comfort to both doctor and patient. It is self retaining and needs no strapping. Continuous drainage rather than intermittent emptying of the bladder will give better results and greater comfort. In ruptures of the bulbous and posterior urethra, the care of the retention catheter is much more difficult. In these cases we believe that if suprapubic drainage and the indwelling catheter are continued a sufficient length of time, six to eight weeks, there will be much less tendency to stricture formation. To keep a catheter in a urethra for six or eight weeks requires infinite care and patience on the part of both doctor and victim. We learned a good many years ago that the constant changing of the catheter was impracticable and harmful. To avoid this we use a catheter with guides in the form of heavy silk or linen thread, sutured into each end of the catheter. These guides are placed after the catheter has been passed into the bladder, and then the ends are tied together over a portion of the suprapubic dressings. By the use of a catheter in this manner, it is prevented from coming or being pulled out. Its position can be changed at will and a fresh catheter can be introduced without disturbing the site of injury in the urethra. With us it has solved a most difficult and perplexing problem. The catheter is kept in the urethra six or eight weeks, ample time for all healing to take place. After its removal, the suprapubic wound heals very rapidly. Following the removal of the catheter, sounds up to 28 F are passed at regular intervals for varying lengths of time. By following this procedure, we feel that the formation of dense traumatic strictures and fistulae can be prevented in most instances.

Ormond and Cathron in similar cases suggest the use of a Hagner bag, the tube to the bag serving as a splint for the urethra; and the bag, by gentle traction, bringing the severed urethral ends closer together. Whatever is used, whether a catheter, modified Foley bag or a Hagner bag, the urine, in all such cases, must be kept acid wth a *p*H of 5.5 or less. Unless this is done there is apt to be an added complication—a calculus.

In closing, let me emphasize the following:

1. In all severe injuries, especially those of a crushing nature, a urologic survey should be a part of the routine examination.
2. Our objective should be not only to save life but also to prevent disabling sequelae. The former is achieved by the use of good judgment and proper surgical procedures; the latter only by prolonged, painstaking postoperative care.

HEART DISEASE IN PREGNANCY

By

CLARENCE R. BENNETT, M. D.

Eufaula, Alabama

The risk of childbearing in the cardiac patient has been markedly reduced in recent years, but the mortality of pregnancy associated with heart disease is still three times as great as that of uncomplicated pregnancy.

Organic heart disease does not occur often in pregnancy, probably in only about one out of every two hundred cases, but its diagnosis and management are of the greatest importance. Most of the cases are the result of rheumatic fever, which, being rare in our section, means that we do not see it often. The other causes may be listed as syphilis, hypertensive heart disease, thyrotoxicosis and congenital heart disease.

The diagnosis of heart disease in pregnancy is often hard to make. This is especially true if we do not see a case until late in pregnancy, say about the 7th or 8th month, because of the fact that during pregnancy certain physiologic changes take place and cause symptoms which may be confused with those of actual heart disease. These normal physiologic changes occurring during pregnancy and which cause symptoms late in pregnancy may be listed as enlargement of the abdomen, raising of the diaphragm and increased cardiac work. These changes produce such symptoms as

1. Palpitation or dyspnea, or both.
2. Tachycardia. Often present.
3. Extra-systoles.
4. Systolic murmurs, usually soft, transient, but may be heard at apex or base.
5. Slight enlargement of the heart—beyond the midclavicular line. May be due to raising of the diaphragm.
6. Edema of the ankles.

These signs and symptoms are called by some "gestational heart disease." They are not seen early in pregnancy and have a nor-

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mal blood pressure. They are not serious as organic heart disease would be. They do not respond to digitalis and should not be given digitalis. In view of the fact that they make the diagnosis of organic disease difficult if the case is not seen until late, it is most important that we see our cases *early* in pregnancy, and at the *first visit* we should.

1. Secure a complete history, especially as to rheumatic fever, chorea or tonsillitis.

2. Make a thorough physical, and determine how easily our patient becomes fatigued and estimate her cardiac reserve.

3. Secure laboratory data, such as Wassermann test for syphilis and basal metabolism test for thyroid disease.

To see our cases *early* and to make a correct diagnosis of heart disease and also most important for its proper management and care. One illustration of this importance is the fact that if one of our old stand-by rules should be used, e.g., to walk or otherwise exercise during pregnancy to maintain muscle tone, one can see how easy it might be to help push a patient into congestive failure, when of course, our advice should be rest and not exercise.

DIAGNOSIS

The presence of some one or more of these evidences is requisite for the diagnosis of organic heart disease:

1. Serious arhythmias, such as auricular fibrillation, flutter, heart block.

2. Diastolic thrills, or murmurs, together with other evidence of valvular (mitral or aortic) disease.

3. Increased area of aortic or cardiac dullness, with displacement of the apex impulse.

4. Hypertensive disease, thyrotoxicosis, chronic nephritis, or signs of arteriosclerosis, with or without hepatic enlargement.

When once the diagnosis of organic heart disease is made, the next important step is to determine the degree of functional impairment of the heart because on this our prognosis and management depend. The classification of the American Heart Association of cardiac functional reserve helps to classify a patient as follows:

CHART 1

FUNCTIONAL CLASSIFICATION OF HEART DISEASE

(American Heart Association)

Class

1. Patients with organic heart disease able to carry on ordinary physical activity without discomfort. (The physical findings are the only evidence of heart disease.)

2. Patients with heart disease unable to undertake physical activity without discomfort.

(A). Activity slightly limited. (Ordinary effort induces discomfort.)

(B). Activity greatly limited. (Less than ordinary effort induces discomfort.)

3. Patients with organic heart disease and with symptoms and signs of heart failure at rest, who are unable to carry on any physical activity without discomfort. (Decompensated cases.)

PROGNOSIS

The statistics given by some of the large clinics are: For Class 1 and 2A: Good—The death rate is less than 1%. For Class 2B: Usually the death rate is about 6%. For Class 3: The death rate is 25% or one in every four.

About 70% die with congestive heart failure and most of the remaining die with acute pulmonary edema. Usually the signs of congestive failure begin to appear during the 6th, 7th or 8th month and some of the cases die during or near labor and some during the puerperium.

MANAGEMENT AND TREATMENT

This should be preventive as much as possible. At the first prenatal visit to the office, a careful history and physical should be made. Patients with the slightest abnormality, both from past history and present signs and symptoms, should be kept under close observation during the entire pregnancy. At the first visit or soon thereafter it is a good plan to have the patient seen by someone thoroughly trained in cardiology for his opinion as to the advisability of the patient continuing with her pregnancy, and certainly if the case is in Class 2B or 3 the question of the termination of her pregnancy discussed. Interruption depends on many factors, such as the number of children the patient has, just how badly she wants this child and her social status, because much of her time will have to be spent in bed and in hospitals which is expensive. Certainly in Class 2B the seriousness of continuing should be explained to both husband and wife and if they insist on going through with it, a part, at least, of the responsibility will rest on their shoulders. I believe most of the authorities agree that all cases in Class 3 should be interrupted if the pregnancy is seen early.

Again referring to the American Heart Classification, the management may be outlined as follows:

Class 1: These should be carefully watched and their activities restricted to those most necessary. They should have an afternoon rest of at least two hours. They should be especially watched and put to bed for any intercurrent disease, even a common cold, and checked for anemia. Their gain in weight should be checked as this adds an extra load to the heart. These cases will usually deliver spontaneously but episiotomy should always be done, and if the labor is long and hard, and the pulse rises above 110 and the respirations above 26, low forceps is advised after complete dilatation and the head is down low. Most of the authorities advise the use of open drop ether as the anesthetic of choice. All cases of heart disease in pregnancy should be delivered in the hospital and patients in this group should be admitted at least 2 weeks before the onset of labor.

Class 2A: The management here is about the same as in Class 1 except that the patient should be made to rest more.

Class 2B: If pregnancy is detected early, it probably should be terminated, but if decided to go through with, the patient should rest most of the time, and be in bed all the time during the last two months. She should be properly digitalized. Should her labor apparently go along all right, she may deliver spontaneously, but most advise forceps to cut out the second stage of labor, and if she has a long labor or the position is abnormal a cesarean is advised.

Class 3: These are the cases which are decompensated. If pregnancy is detected early, all agree that to digitalize them and interrupt the pregnancy is safest. Should it not be known that she is pregnant until after the 4th or 5th month she will have to be at complete rest, under digitalis all the time and in the hospital the last month or two. The choice of delivery is cesarean after proper digitalization at about the 8th month, with sterilization, or to deliver with forceps at the point of complete dilatation, using ether anesthesia.

Many of these seriously handicapped patients will develop acute pulmonary edema during labor or during the first 12 hours afterward. For this the treatment is oxygen, morphine and rapid digitalization, all of which often fail. All agree that should pulmonary edema develop, morphine should be given, the patient allowed to rest and the labor not rushed until the heart has made an effort to come back. Pneumonia is another complication which may appear during the puerperium.

SUMMARY

To summarize a few of the important points:

1. All pregnant cases should have an early examination, at which time heart disease should be carefully looked for, and if present should be classified as to its functional degree.

2. All heart cases should be carefully watched, made to rest properly, their hearts digitalized, and intercurrent infections, such as colds, given close attention. Anemia should be guarded against.

3. All heart cases should be delivered in hospitals and should enter several weeks before time of confinement.

4. All heart cases should be under the care of an obstetrician and a well qualified internist.

5. Every effort should be made to prevent congestive failure. This is best done as a preventive measure by careful classification of patients at the first visit and then by insisting on adequate rest for the demands of the heart.

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Pelvic Pain—A growing tumor, incarcerated in the pelvis, may produce pressure pain, as may small uterine fibromyomas, strategically situated. Non-adherent cysts and pedunculated fibromyomas, however, commonly rise from the pelvis with growth and may obtain huge proportions without causing more than mild sensations of weight and pressure. It is extremely doubtful that the freely movable, normally sized, retroverted uterus contributes much, if any, pressure pain.—*Mengert, South. M. J. April* '43.

SEQUESTRUM OF THE FRONTAL SINUSES

By
E. R. NODINE, M. D.
Montgomery, Ala.

The literature is not very rich in reports of sequestra of the sinuses. The presentation of this case with recovery seems worth while in view of the fact that such an author as McKenzie[1] in 1913 reported 100 per cent mortality in postoperative osteomyelitis of nasal sinus origin. The case occurred on my service at the New York Polyclinic Hospital some years ago before the advent of the sulfa drugs.

Osteomyelitis of sinus origin usually affects the frontal bone and produces swelling and pain over the frontal sinuses. At this stage there is usually seropurulent fluid between the periostium and the bone. Necrosis involving the whole bone may follow and extend to other cranial bones through the diploe. If the condition becomes localized, a subdural abscess may form, producing a boggy external swelling. Recovery may take place with the separation of sequestra. When this arises secondary to operation on the sinuses, the prognosis is poor.

It is well to remember that osteomyelitis of the nasal sinuses always brings with it a history of chronicity along with the acute symptoms.

REPORT OF CASE

P. M., male, aged 35, was seen in the clinic in October, 1933. Chief complaints were severe frontal headache, nasal discharge and edema of the eyelids. The history briefly was that of a chronic frontal sinusitis of over ten years' duration, with acute exacerbations on an average of four or five times a year. No nausea or vomiting had occurred, nor had he had diplopia at any time.

Examination revealed tenderness and edema over the frontal region, and marked swelling and exophthalmos of the right eye. There was intense headache, with very slight nasal discharge. Temperature was 99.8. The fundi were negative. Intranasally there was a high deviation of the septum and a slight purulent discharge from the right middle meatus.

Owing to the acuteness of the case, medicinal solutions and diathermy were used, after the patient was hospitalized, to promote drainage. X-rays showed suggestive frontal bone necrosis.

He did not improve under conservative intranasal treatment, and in view of the x-ray findings an external operation was decided upon.

Under ether anesthesia a modified Killian operation was performed. An incision was made through the eyebrow and the periosteum reflected. The frontal (right) sinus was entered through the anterior wall. The interior of the sinus was full of very dense, yellowish green pus. As the pus was being aspirated a sequestrum about the size of a dime came away. On investigation it was determined that this was the septum between the two frontal sinuses which had sloughed away. All polypoid tissue and soft bone were removed along with the floor and right ethmoid cells. This included the middle turbinate.

While completing the operation it was found that both sinuses now communicated and there was no doubt that the sequestrum constituted the remains of the septum and had probably been floating free in the secretions.

Recovery was slow but uneventful, leaving a surprisingly small scar in spite of the extensive amount of surgery. I happened to see this patient seven years later and he said that he had had no recurrence of the old symptoms and had been very comfortable.

1. McKenzie: Journal of Laryngology, May, 1913, p. 179.

The Management of the Menopause—The majority of menopausal women require no endocrine treatment at all. Constitutional disturbance should be corrected and detrimental environmental factors removed. Overwork and undue fatigue should be avoided. A life with vital interests, diversions and recreation should be encouraged. The nervous and psychic manifestations may be greatly influenced by an explanation of what the menopause means and what it does not mean. In some cases mild sedatives may be required to control insomnia, nervousness, and vasomotor disturbances.

Occasionally climacteric symptoms are severe enough before the menopause to require therapy. They are more commonly present premenstrually and during the flow. In these cases estrogen should be started about the mid cycle, and continued for a few days before the expected flow. In some instances it is necessary for estrogen to be given throughout the cycle.

With reference to estrogenic therapy, the synthetic estrogens are particularly appealing to the clinician over the natural estrogens. Stilbestrol is less expensive. It is appreciably more active when administered orally. It has a prolonged estrogenic action and a constant blood level of estrin is maintained by the daily oral administration of a small amount of stilbestrol. It produces all the physiological effects of natural estrogen. No evidences of toxic effects have been found on blood, urine and liver studies when given in moderate doses necessary for clinical administration.

The requirements for relief of symptoms vary according to the origin of the menopause. When menstruation has not ceased and symptoms are mild, 0.1 to 0.3 mg. per day usually is effective. In spontaneous menopause 1.0 mg. daily is usually effective. In cases of surgical or radiologic menopause 1.0 to 3.0 mg. a day may be necessary.—*Travis, Texas State J. Med., March* '43.

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SPECIAL WARNING BULLETIN
EPIDEMIC KERATO-CONJUNCTIVITIS

There appears in the Committee Contributions section of this number of the Journal a special warning bulletin regarding epidemic kerato-conjunctivitis prepared jointly by the U. S. Public Health Service and the Committee on Industrial Ophthalmology of the American Medical Association that should claim the attention of the entire profession. While it is recognized that relatively few cases of epidemic kerato-conjunctivitis may be reported in some areas which are not so essentially industrial as others, the condition has appeared so extensively throughout the country that the Committee on Industrial Ophthalmology hopes physicians everywhere may be prepared to meet the situation.

DRUG THERAPY OF MIGRAINE HEADACHE

"Until recently, migraine headache has been most difficult to control. However, since the advent of ergotamine tartrate, this drug has been effective in aborting or terminating 90 per cent of all attacks in 600 cases. In spite of such encouraging results, older and nonspecific drugs continue to be used by those suffering from migraine, probably because of ignorance on the part of the lay public concerning the existence of ergotamine tartrate. To compare the results obtained by specific (ergotamine tartrate) therapy and nonspecific therapy, the effects of various medications used by 200 patients were analyzed in terms of the patients' evaluation of the various drugs. Ergotamine tartrate was employed in the Out-Patient Department of the Boston City Hospital. The other drugs were used by the patients on their own initiative or were prescribed by physicians outside the hospital. All observations are subjective and were elicited directly from the patients."

Thus do Trowbridge, von Storch and Moore[1] open their brief but excellent discussion of this malady which makes life very miserable for many patients, and also for the medical advisers of said patients. The Harvard neurologists divide the nonspecific remedies used by the patients into eight groups—vasoconstrictors, narcotics, barbiturates, analgesics, drugs affecting the gastro-intestinal tract, bromides, endocrine preparations and patent nostrums. And, though varying degrees of relief were reported as being obtained by these drugs, the results as a whole were disappointing, as might have been expected. But we are told that "eighty per cent of those using ergotamine tartrate reported complete relief from the migraine attacks. Because some used the drug orally and others by hypodermic, the percentage relieved is a composite of the relief obtained by the less effective oral and highly effective parenteral routes."

And in conclusion the authors tell us that "it may be said that many misinterpretations are made in the evaluation of headache remedies, especially in the therapy of migraine. In this study there was considerable difficulty with some of the patients in determining whether the particular headache treated by a given drug was actually migrainous, although the patient suffered from migraine attacks at certain times. Side actions of the various drugs may have afforded some secondary relief without affecting the headache itself."

"The greatest relief was from drugs in the vasoconstrictor group, consisting mainly of favorable reports on the use of ergotamine tartrate by 80 per cent of its users, in spite

1. Trowbridge, Lowell S.; von Storch, Theodore, J. C.; and Moore, Major Merrill: New England J. Med. 227: 699 (Nov. 5) 1942.

of unpleasant and pronounced side actions. This reemphasizes the observation that drugs causing vasoconstriction of the branches of the external carotid artery are by far the most successful in terminating or aborting migraine headaches. Analgesics were tested most frequently by the greatest number of cases, but with comparatively unsatisfactory results."

"Perhaps newer therapeutic methods, such as oxygen inhalation, vitamin B_1 therapy and arterial ligation will prove effective in the future. Until such time, ergotamine tartrate remains the most effective means of terminating a migraine attack."

The Boston investigators have covered their subject well and it is difficult to see how one can take issue with them. The patient, racked by migraine, and his sorely beset physician may have only a slight interest in the etiology of this syndrome but both most earnestly desire a quick and effective means of relief. Ergotamine tartrate is frequently disagreeable and at times is not without danger, but to date it continues to be the drug of choice in the treatment of migraine.

THE "COUNTRY DOCTOR"

It is fitting that there be reprinted here the following editorial from the *Tuscaloosa News* of March 7, 1943 on the death of Dr. A. B. Price of Gordo, a Life Counsellor of the Association.

Hearts overflowed in Gordo Friday. That Pickens County community, and the countryside around, gathered at the Gordo Methodist Church to show their feelings for one who had been dear to them for more than three generations.

It was the funeral of Dr. A. B. Price, a "country doctor" who died Thursday following several years of ill health. As some expressed it, "he wore his heart out helping us."

Dr. Price earned his degree in medicine back in 1898, at the University of Alabama School of Medicine, then located in Mobile. Immediately after completing this preparation, he returned to his beloved Pickens County and threw himself, heart and soul, into the task of serving his people.

For years he traveled the difficult roads on horseback, taking life-saving service to those in isolated farmhouses. Not only did he bring babies into the world, save mothers, reassure fathers and rescue persons of all ages from the ravages of disease, but he also inspired spirits and gave the touch that saves souls. He served all who needed him.

He was a deeply religious man, and this fact permeated his medical service. A Methodist, his religion of humanity encompassed all faiths and all humans. He was a Mason who found the deep spiritual basis of this order and translated it into action for the benefit of his fellows.

Honored as a medical man, he was loved as a friend of thousands. Some referred to him as the highest type of "old Southern Gentleman," and this is a supreme tribute indeed in our Dixieland.

There are some who think that the character which Dr. Price so abundantly identified as the "Country Doctor" is destined to pass from the American scene, and especially rural Alabama.

It cannot be true. We cannot afford to lose this powerful influence which has helped our nation, our state and our counties to develop through the years. Surely some of the young doctors now learning, and now serving us all in the armed forces, will see this light and follow the gleam of the "Country Doctor."

Here in Alabama there is a movement to establish a 4-year medical school. This is the very first thing that we must do to make certain that Alabama will have "Country Doctors" in the future. Dr. Price was a product of the one-time 4-year school which served this state. He is an example of hundreds who were able to answer the call, because they could equip themselves without leaving the boundaries of our state. Not a single one can do it today, because we have only a 2-year school at the University.

Just a hint of the love and respect which folks held for Dr. Price is shown in the fact that a single local flower shop had to make two truck trips to take to Gordo the floral tributes ordered by friends of this man. Here was physical evidence of a spiritual feeling which ran throughout West Alabama when word was passed that Dr. Price had answered his last call.

FORGERIES OF U. S. TREASURY CHECKS

The United States Secret Service has asked that publicity be given the following communication regarding forgeries of U. S. Treasury checks issued for Army and Navy allowances and allotments.

Army and Navy allowance and allotment checks are being issued in increasing numbers to dependents of men in the armed forces. The mailing of hundreds of thousands of these checks monthly offers many new opportunities to check thieves and forgers. It is the patriotic duty of every American to do everything possible to see that these checks are received and negotiated by those for whom they are intended. The theft or forgery of allowance or allotment checks may mean that the mothers, wives or families of men on the fighting fronts will go cold or hungry for want of money before duplicate checks are issued for the originals they should have received.

The prevention of such misfortune may be eliminated to a great extent if the payees of Army and Navy allowance and allotment checks will promptly report any change of address of their post office; have their names placed on their mail

boxes; try to work out a system whereby their mail carriers will notify them when checks are delivered; endorse their checks only at the time they are cashed, and try to cash them always in the same place.

This service has received fine cooperation from newspapers, and merchants' credit associations in printing articles dealing with this matter, and we would greatly appreciate it if you, also, would insert an item in your publication along the above lines and cautioning merchants and others to insist upon identification when cashing government checks for strangers; to have such checks endorsed in their presence, and to have all checks initialed by the person who accepts them. Emphasis should be placed on the hardships and misfortunes which may be thrust upon soldiers' and sailors' dependents whose allowance and allotment checks are stolen and forged.

COMMITTEE CONTRIBUTIONS

ACCIDENTS AND INDUSTRIAL HYGIENE

C. H. Ford, Chairman
Birmingham, Ala.

SPECIAL WARNING BULLETIN
Epidemic Kerato-Conjunctivitis

Incubation Period. Five to ten days.

Clinical Manifestations. The onset may be preceded by a low fever and mild generalized malaise. The local ocular symptoms are merely those of a foreign body or conjunctival irritation. One eye is usually affected first, and in a large percentage of cases the second eye becomes infected within five to eight days. Preauricular and submaxillary glandular involvement with tenderness is common in a high percentage of cases.

Edema of the lids and the conjunctiva, especially the transitional fold, is very frequent. The conjunctiva presents the appearance of a simple purulent conjunctivitis but with little or no formation of pus. Small areas of pseudo-membrane are not infrequent and when removed leave either small white dotted points or some bleeding points. The bulbar conjunctiva becomes edematous early. At this stage, there is some lacrimation and photophobia, but real pain and blepharospasm do not appear until the cornea becomes involved.

The percentage of cases in which corneal involvement occurs varies from 50% to 90%. In six to twelve days after the conjunctivitis appears, the cornea becomes involved by the appearance of discrete gray infiltrates that lie in and immediately under the epithelial layer of the cornea. They may be confined to the periphery of the cornea but in a large percentage of cases involve the pupillary area of the cornea directly. These infiltrates are discrete and seldom become complicated by an erosion of the corneal epithelium with resultant staining with fluorescin. The extent of visual impairment depends upon the number of infiltrates and their location.

Clinical Course: The disease is self-limited. In the majority of instances, the conjunctivitis disappears spontaneously in 14 to 18 days. The corneal complication may disappear in seven days or may last for many months. The longer they persist the greater is the danger of permanent visual impairment.

Laboratory Findings: Scrapings of the conjunctiva show a preponderance of monocytes. Cultures and smears are either negative or show the usual contaminations.

Treatment: There is no specific treatment that has shown a definite influence upon the course of the disease. During the acute stage the eyes should be kept clean with irrigations of boric acid, normal saline, or one to five thousand oxycyanid of mercury. If there is much photophobia, 1 per cent holocaine may be instilled at frequent intervals. Five per cent sulfathiazole ointment has been used, as has 5 per cent solution of sodium sulfathiazole sesquihydrate. For persistent corneal infiltrates, x-ray has seemingly yielded some results.

Period of Infectivity: It is not yet known how long the danger of transmission to others exists. At present for practical purposes a sufferer from epidemic kerato-conjunctivitis may be allowed to return to work when the active conjunctivitis has disappeared.

Preventive Measures: At present the only preventive measure known is complete isolation of infected persons. Inasmuch as the disease has been transmitted through medical personnel, the most meticulous asepsis must be insisted upon. Not only must physicians and nurses wash their hands thoroughly with soap and water after each pa-

tient, but also eye droppers, solutions, instruments, etc. must be sterilized to prevent infection of non-contaminated persons. The infected individual must be told of the danger of transmission of this disease to others, not only in the plant, but even in the home surroundings. It is suggested that in industrial plants where epidemic kerato-conjunctivitis has made its appearance the following methods of procedure be adopted:

1. In smaller plants with a limited personnel, every individual with a red eye should be stopped at the entrance of the plant and sent direct to the plant physician to determine whether or not epidemic kerato-conjunctivitis is present.

In larger plants where such a procedure is not possible, supervisors and foremen should be instructed in detail to make rounds immediately when a fresh shift starts, and send any individual with a red eye to the medical office.

2. If the cases are to be treated at the medical department of the plant, a separate room should be set aside for such cases and in that room there must be exercised the most scrupulous asepsis even to washing off the arms of the chairs in which the patients sit. Aside from the aseptic and separate care of the recognized cases of the disease, special cleanliness of the hands of the physician in the general clinic should be maintained, with the use of an effective disinfectant between cases, lest the infection be spread by means of undiagnosed cases, especially those suspected of having foreign bodies in the eye.

3. Every case of epidemic kerato-conjunctivitis should be excluded from the communal facilities of the plant until the inflammation has subsided to the point where the plant physician considers it no longer transmissible.

4. Explicit instructions should be given to every individual regarding the danger of transmission, and emphasizing the decrease in the war effort as a result of the time lost from epidemic kerato-conjunctivitis.

5. The local health authorities should be notified immediately of the existence of individual cases.

This statement has been prepared jointly by the United States Public Health Service and the Committee on Industrial Ophthalmology of the American Medical Association for distribution to all physicians.

CANCER CONTROL

J. D. Chapman, Chairman
Selma, Alabama

Cancer in Childhood

In the United States of America during 1939 cancer was the cause of 153,846 deaths, of which 1,103 (0.7 per cent) occurred in persons under fifteen years of age. In Alabama in 1939 there were 1,710 deaths from cancer and 14 (0.8 per cent) were in persons under fifteen years of age. In 1940 Alabama lost 1,859 by cancer with 17 (0.9 per cent) under fifteen years of age.

Although less than one per cent of our cancer deaths occur in children, the percentage for Alabama is higher than that of the nation as a whole. Cancer in children has a sufficiently high incidence to occupy an important place in differential diagnosis. We should keep this in mind especially when the diagnosis in young people is obscure. Only treatment of *early* cancer gives a high percentage of cures.



160,000 Americans die of cancer annually. Authorities say *many of these deaths could be avoided.*

Help us spread the knowledge that cancer can, in many cases, be cured. Enlist today in your local unit of the Women's Field Army.

In the Metropolitan Area, address the New York City Cancer Committee, 130 East 66th Street.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER
350 Madison Avenue, New York, N.Y.

The Cancer Control Bill

A bill has been prepared under the supervision of the State Board of Health and the Cancer Control Committee of the State Medical Association, and is being groomed for presentation at the May session of the State Legislature to provide funds for cancer control work in Alabama. There are certain important features of the bill which need to be emphasized.

1. A continuous educational campaign is to be engaged in to inform the laity of the early indications of cancer so that an early diagnosis may be made. This publicity will be carried on through the various medical agencies and also the state organization of the Women's Field Army, operating under the American Society for the Control of Cancer.

2. The State Board of Health will have the responsibility of receiving and disbursing funds made available, and also serve as a clearing house for the applications for special cancer therapy. This will enable the central board to coordinate all cancer control efforts.

3. Each county medical society will have a cancer control committee to assist in investigating and passing upon the indigency of the applicants, and to work in cooperation with the welfare agencies in arranging for the transfer of patient to cancer clinics.

4. Recognition will be made of groups or clinics or hospitals qualified under the requirements of the American College of Surgeons to administer adequate cancer treatment. Likewise, encouragement will be made to increase the facilities for treating cancer in the state. Groups of prepared physicians can organize themselves into tumor clinics and when the standard of requirements has been reached will be recognized for state-aid patients.

Alabama ranks very low in cancer control work and the passage of the bill for state aid will enable it to develop a program along with several other states now outstanding in this work. It is desirable for each county medical society to contact their representatives for a definite commitment in this campaign against the second greatest destroyer of lives in the United States.

MATERNAL AND INFANT WELFARE

A. E. Thomas, Chairman
Montgomery, Ala.

Prematurity

Prematurity is the largest single cause of death during the first year of life. During 1940 it accounted for 33.8% of the infant deaths in Alabama.

There are many causes of prematurity, but in many instances no definite reason can be found for the onset of early labor. There are six important factors: (1) toxemias and renal complications, (2) concurrent disease unrelated to pregnancy: syphilis; abdominal surgery; infections in any location, (3) operative termination of pregnancy, (4) local gynecologic conditions: fibroids, (5) hydramnios and placenta praevia, and (6) multiple pregnancies.

Careful antepartum care will help to prevent some of these early births. Serologic tests and careful histories in early pregnancy, followed by adequate treatment, will result in fewer premature labors. It is important that all women who have had syphilis inform their doctors of this treatment, for it is necessary for every pregnant woman who has had syphilis to have treatment throughout each pregnancy regardless of her serology.

Careful choice of anesthesia or analgesia and actual type of delivery greatly influences the mortality. Premature babies delivered by breech and cesarean section have a 50% mortality. Whenever possible, abdominal operations should be postponed until the ninth month of pregnancy.

One of the most important factors in reducing infant mortality of prematures after delivery is the maintenance of initial body heat. A warm cradle should be prepared in advance when a patient goes into premature labor. Secondly, the establishment of rhythmic breathing and administration of oxygen should be arranged for. Unless carbon dioxide is used with care it may overstimulate the baby, and this may lead to exhaustion.

The baby should be left undisturbed and kept warm for the first twenty-four hours. For a few days feedings by gavage done carefully and slowly will prevent choking and aspiration of liquids into the lungs. The amount and length of time of gavaging will vary with the size and strength of the infant. It has been found that feedings given every

four hours give the best results because the intervals allow for rest which is essential, and an intake of 60 calories per pound per day can be given in six equal feedings. Breast milk is preferred.

Vitamin K should be given to the mother as soon as she goes into labor. If the mother does not receive an adequate amount before delivery, the infant should be given an adequate dosage of vitamin K.

Infections can be kept to the minimum by strict isolation of the infant, minimum handling, no baths until a weight of five pounds has been attained, use of as few attendants as possible, and elimination of contacts with respiratory infections.

When infections occur the same diagnostic and therapeutic procedures can be used as in larger infants. The sulfonamide drugs, transfusions and fluids are well tolerated.

If the baby can survive the first 48 hours his chance of survival improves rapidly when adequate care can be continued.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D.
State Health Officer in Charge

KNOW YOUR ENEMY

"Know your enemy."

That is said to have been one of the military maxims of the late Marshal Foch, whose genius in planning campaigns of offense and defense has given him a high place among the military chieftains of all time. Had he not put that rule into practice during the dark days of the first World War, the outcome of that struggle might have been entirely different. Allied victory undoubtedly would have been long delayed, if not rendered impossible.

We are now engaged in another desperate struggle against German armies. The sons of the men who fought in France and Flanders are now fighting the sons of the veterans of the Germany army of a quarter of a century ago in the sand and mud of North Africa. Sons of other American soldiers of 1917-18 are fighting Japs in the jungles of the South Pacific and in the death-infested clouds over Burma and the Bismarck Sea. And the leaders of these American lads and their British, Chinese, French and Russian brothers in arms are applying the wisdom of Marshal Foch to the military problems of 1943. They are devoting particular attention to his maxim to "Know your enemy."

The battles that are being carried on against human adversaries armed with bombs, grenades and other instruments of death are not by any means the only ones in which it is the part of wisdom to "Know your enemy." The success of any campaign for human betterment will be materially promoted if the leaders in that campaign find out all they can about the forces against which they are struggling, whether they be lawbreakers or disease germs.

One of the most important non-military battles now going on is that seeking the conquest of the venereal diseases. It recognizes no armistice and pays little attention to the cold of winter or the heat of summer. But the success of that campaign may have a greater effect upon the well-being of the human race than many a battle which school children study in their history books.

Let us apply Marshal Foch's maxim to the winning of this campaign. Let us consider some of the important facts about the enemy syphilis, which is receiving particular attention from physicians, public health workers and others at this time.

To begin with, how does one contract syphilis?

This disease may be contracted in any one of several ways. Usually infection results from intimate association with a person having it. However, it may also be contracted by contact with articles or utensils that have been used or handled by someone having syphilis. The germs—for of course this is a germ disease—enter the body through the mucous membrane or through a small break in the skin. This need not be large. In fact it need not be large enough to be seen by the unaided human eye. Then they multiply and enter the bloodstream. In that way they are carried to all parts of the body.

After a period varying from ten days to six weeks the first sore appears at the site

of infection. This is known as a chancre. Unfortunately, it in time will disappear, even if the disease is not treated.

Why do I say *unfortunately?* you may ask.

The word was used deliberately. The fact that this sore, or chancre, disappears of itself is unfortunate, because it builds up a false impression in the infected person's mind. If it did not heal, he probably would become worried about it and see a doctor. But who worries about or pays much attention to a sore that does not stay long? That fact also makes syphilis an almost ideal field for the quack. What better "proof" of a cure could a pretender to medical knowledge ask for than that the symptom which caused the patient to consult him has completely disappeared? What gullible victim of syphilis, unacquainted with the peculiar habits of the disease, will refuse to pay his good money for such a quick "cure"? How is he to know that the quack's so-called "treatment" played no part at all in the disappearance of that chancre? Is it surprising that he mistakes a fraudulent cure for the real thing?

The victim who has let the disappearance of that sore lull him into the comfortable assumption that it didn't mean anything, or the equally dangerous assumption that he had syphilis but is now well, is allowed to enjoy his dangerous state of blissful ignorance for a while. There may be no outward indications for several weeks that anything is wrong. Then comes a cruel awakening. Suddenly and without warning he breaks out with a rash. It may look like measles. Or it may resemble scarlet fever, smallpox or any number of other diseases. At this stage of the disease the victim may experience a few aches and pains, which may cause him to doctor himself for measles, scarlet fever or one of the other diseases which that breaking-out suggests. On the other hand, he may be entirely free from pain. He may continue to feel entirely well. In that case, he may be inclined to pay little or no attention to the rash. He may apply a salve to the place. But, regardless of what he does or does not do, his rash probably will do exactly what his chancre did—disappear. And again he is lulled into a sense of well-being.

Unfortunately, the syphilis victim who is thus lulled into a false sense of well-being and allows it to rob him of the benefits of proper treatment endangers others as well as himself. For in that stage his disease is extremely contagious. His wife and others near and dear to him are likely to contract it and add still other links in the fatal chain of infection.

The thing that happens to the syphilis victim after that rash disappears happens under the surface. Sometime later—it may be months later, but it is more likely to be years later—the sly old enemy reappears. The victim is surprised and disturbed to find that he cannot stand in the dark without falling over. There is likely to be a marked change in his temperament. All of this means of course that the syphilis germs have at last begun attacking the brain. By this time they probably have already attacked other organs, such as the heart, the blood vessels, the liver, the kidneys, or the digestive system. In brief, our hypothetical syphilis victim has become another member of the swelling army of life's unfortunates who crowd our institutions for physical and mental wrecks. If he is able to obtain proper treatment, his life may be prolonged for a considerable time. But health, in the sense that most people understand the term, will never be his again. Here you have the tragedy of too little and too late—too little that can be done for one of the most pathetic of humans, because the much that could have been done is being done too late.

The tragedy of the last-stage syphilitic is emphasized when we remember how easily his tragic fate could have been prevented. Had he gone to a reputable physician or clinic as soon as those early symptoms appeared, he could have begun a system of treatment which would have brought an almost certain cure within a few months. Even if he had acted only after the appearance of that tell-tale rash, he would still have had a good chance of recovery. For we see all about us men and women who once had syphilis but are now sound in mind and body and capably doing their share of the world's work.

Another tragedy of syphilis is that, contrary to a widely held belief, it is not necessarily a punishment for transgressions of the moral law. Remember that babies are born with it simply because their mothers had it during pregnancy and childbirth. Remember that the disease may be contracted

innocently enough by using safety razors and similar articles that have been used by a syphilitic. Remember those seventeen cases that were traced to a single "kissing game" in which seventeen persons kissed someone whose body was generating syphilis germs. Remember the food handler who went to a prominent Montgomery physician because he was disturbed about a sore on his tongue —a sore which the doctor was obliged to tell was the first symptom of syphilis. Remember that Alabama family — father, mother and young child—who developed syphilis from drinking from an old-fashioned gourd which had also been used by a Negro servant.

Epidemic typhus fever is a disease of filth. Malaria is primarily, although not exclusively, a disease of country people. So, to a large extent, is typhoid fever. Certain chest conditions are largely confined to those who work in dusty trades. Numerous other forms of illness offer little danger to anyone except members of certain limited groups or classes, social or industrial. But syphilis recognizes no distinctions and spares no one who comes within its sweep. Money cannot buy protection except insofar as wealth can provide medical care which may not be available always to the victim of poverty's cruelties. Neither can a Mayflower ancestry or royal blood, as Henry VIII, Catherine of Aragon and Bloody Mary of England, Francis I of France and many others are believed to have learned to their sorrow.

Nor does syphilis pay much attention to the seasons by giving a comparative escape from its dangers during certain periods of the year, as malaria, typhoid and certain respiratory infections do. In that respect, it reminds us of death, about which Mrs. Felicia Hemans wrote so poetically:

"Leaves have their time to fall,
And flowers to wither at the north-wind's breath,
And stars to set; but all,
Thou hast all seasons for thine own,
O Death!"

Fortunately, a powerful weapon is being brought into the battle against this disease and is proving a potent ally of the medical measures which have long been in use. I refer to the dissemination of information regarding the disease and the methods of preventing and curing it. As a contribution to that phase of the anti-syphilis campaign, the Montgomery Junior Chamber of Commerce is sponsoring a special educational program in this city at this time. The present speaker and the State Department of Health sincerely hope that it will be the means of saving many lives and protecting thousands of our people against this terrible agency of death and disability. The need to "know your enemy" is as real here as in any other kind of warfare.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

JANUARY 1943

Examinations for diphtheria bacilli and Vincent's	519
Agglutination tests (typhoid, Brill's, undulant fever)	419
Typhoid cultures (blood, feces and urine)	516
Examinations for malaria	509
Examinations for intestinal parasites	1,429
Serologic tests for syphilis (blood and spinal fluid)	48,567
Darkfield examinations	34
Examinations for gonococci	2,408
Examinations for tubercle bacilli	1,589
Examinations for Negri bodies (microscopic)	36
Water examinations (bacteriologic)	817
Milk examinations	1,910
Pneumococcus	17
Miscellaneous	440
Total	59,210

* * *

FEBRUARY 1943

Examinations for diphtheria bacilli and Vincent's	509
Agglutination tests (typhoid, Brill's, undulant fever)	389
Typhoid cultures (blood, feces and urine)	455
Examinations for malaria	550
Examinations for intestinal parasites	1,593
Serologic tests for syphilis (blood and spinal fluid)	44,460
Darkfield examinations	32
Examinations for gonococci	2,539
Examinations for tubercle bacilli	1,577
Examinations for Negri bodies (microscopic)	39
Water examinations (bacteriologic)	717
Milk examinations	1,812
Pneumococcus	10
Miscellaneous	358
Total	55,040

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

CONFERENCE ON WAR-TIME VENEREAL DISEASE CONTROL IN ALABAMA

Contributed by

W. H. Y. Smith, M. D., Director
Division of Venereal Disease Control

On February the twenty-sixth in the House of Representatives of the State Capitol, a conference on War-Time Venereal Disease Control in Alabama was held. Those invited were representatives from all the military camps or stations in Alabama, representatives from the service commands, and the county health officers in whose counties there is a camp or station, or whose counties are so close to a camp or station that a venereal disease problem exists.

The object of the conference was to bring forth by talks and discussions all problems in venereal disease control that might have arisen as a result of development of the various military camps or stations in the state. Many problems would arise that could only be solved by certain organizations not related to either the military or official health groups. Representatives of these organizations were invited to make up a panel in the hope that solutions of certain problems would be forthcoming.

The results of the conferences were crystallized in the following recommendations and resolutions:

1. That local health departments more actively cooperate with the armed forces:

(a) By bending every effort and utilizing all personnel in the venereal disease control program by more thorough examination of the infectious source;

(b) By realizing by action and cooperation that the venereal diseases are a paramount problem;

(c) By prompt investigation and examination of contacts of military personnel by experienced investigators;

2. That the armed forces accept more responsibility in obtaining information about contacts of military personnel and in the establishment of prophylactic stations in urban areas. The taking of contact histories should not be assigned to an untrained individual but should be the responsibility of the Venereal Disease Control Officer. Attempts should be made to secure more than one contact.

3. That the Governor be requested to notify all law enforcement officers to curb actively prostitution in their respective communities.

4. To effectively control the spread of venereal disease in any community, it was suggested that appropriate governmental agencies be requested:

(a) To prohibit or limit the sale of beer and liquor in all retail establishments where venereal disease contacts are made;

(b) If taxi cabs, etc., are offering a problem in transporting prostitutes, that the Office of Defense Transportation be asked to withdraw the "certificate of war necessity" for operation of such vehicles;

(c) That the personnel of the Alabama State Highway Patrol be appointed peace officers with full police powers in accordance with Section 13, Act 181, of the 1939 Legislature, approved March 18, 1939;

(d) That local sheriffs and police be asked to arrest, when a warrant is sworn out, all persons, contacts or infected individuals who are a menace to the public health.

(e) That the Department of Correction and Institutions follow accepted plans of treatment for all infected prisoners; that when an infected prisoner is discharged a copy of his treatment record be sent to the county health officer in the county in which he resides.

5. That all hotels be asked to control prostitution within their buildings. Failing to cooperate, the hotels should be placed "off limits" by the Armed Forces.

6. It was recommended that the physicians and pharmacists of the state be advised through the presidents of their respective societies:

(a) Of the dangers encountered in the administration of the sulfonamide drugs to flying personnel of the Army and Navy;

(b) Of the danger of and laws against "drug store" diagnosis and treatment;

(c) Of the legal requirements of physicians to report to health departments all new cases of venereal disease and those cases that lapse treatment.

7. That a broad program of health education on veneral disease be conducted by the state and county health departments.

RESOLUTION NO. 1

Whereas, Conditions of vice and prostitution so promote the spread of such diseases that their control is important to any organized venereal disease program, and

Whereas, The control of venereal disease in both the military and civilian population is of paramount importance to the public health and the war effort, and

Whereas, Many persons, organizations and agencies must work together closely to correlate efforts and to assist one another in effecting and perfecting the many phases in venereal disease control in local communities; therefore be it

Resolved, That there be organized in all counties of Alabama a committee on War-Time Control of Venereal Disease, to consist of the county health officer; the sheriff; the county solicitor; representatives of the city police department; the presiding judge of the circuit court; the president of the county medical society; the president of the local bar association; the president of the hotel association; the president of the restaurant association; the president of the retail druggist association; the surgeon of the local army or naval base; a representative of taxi cab companies; a representative of the county commission; representatives of civic organizations and the director of the U. S. O; and be it further

Resolved, That his Excellency, the Governor of Alabama be requested to direct the organization of such local committees by public appeal and by direct requests made of county health officers to initiate their organization; and be it further

Resolved, That his Excellency, the Governor be requested to organize a similar committee at the state level.

RESOLUTION NO. 2

Resolved, That all persons attending this meeting and other interested persons in military and civilian organizations be furnished a copy of these recommendations and resolutions.

Unanimously adopted this the 26th day of February, 1943.

ANNUAL MEETING
BIRMINGHAM
APRIL 20-22, 1943

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

THE IMPORTANCE OF PRESERVING DECIDUOUS TEETH

Contributed by
J. E. Chrietzberg, D. D. S.
Division of Dental Hygiene

Attention has been focused on the important need of more care for the deciduous teeth. In a report recently made it was found that, of 52,000 Alabama children given a dental inspection, 30,000 were affected with caries in one or more of their deciduous teeth. This number is very large, but if a true picture were presented the percentage would be even greater since many of the children inspected had already lost all their deciduous teeth. If only the children having deciduous teeth were checked, the percentage would be much higher. Many decayed deciduous teeth were found to have abscesses or broken down with only the roots present. With these facts, this article will endeavor to show the importance of preserving the deciduous teeth from early childhood.

An extremely low percentage of children reach the dental office at two and a-half or three years of age, though this is the proper time for the child to start to the dentist. At the age of six, or the time permanent teeth begin to appear, and the child comes under the influence of the school teachers and health programs, there is some increase in the number of children visiting dentists. This influence is augmented as the child grows, and by the time he reaches high school a good increase is noted by the number of fillings present in this age group.

Some individual or a group of individuals is responsible for the children found with deplorable mouth conditions. In the majority of cases the responsibility rests on a group and not on any single individual. The lack of dental education among many whose responsibility it is to promote better health is the greatest cause of this neglect. This group includes dentists, physicians, educators and social workers. The dental profession as a whole knows the need of this work but fails to take advantage of many opportunities to place before the public the importance of preserving the deciduous teeth. Unfortunately some dentists have

retarded corrective work on the deciduous teeth by refusing to fill them and, in order to leave a satisfied patient, made the statement that these teeth are soon to be lost and there is nothing that can be done. The parents, feeling they have done their duty as parents, go on with a clear conscience broadcasting with much emphasis that baby teeth should not be pulled or filled because Dr. X said so. The child usually begins to suffer from a toothache when sweets or other foods are taken into the mouth. This continues with much suffering and nerve wrecking until finally the tooth abscesses, causing swelling and an elongation of the tooth which causes poor mastication, bringing about indigestion which may lead to many physical ailments; namely, tonsillitis, rheumatism (growing pains), neuralgia, gastro-intestinal disorder, poor assimilation of food, pyelitis, cardiac conditions, bad eyesight, and many other ailments not directly associated with the teeth.

Many parents refuse to take their children with decayed teeth to a dentist because they do not believe it is worth the price since it is not a permanent tooth. Many of those that half-heartedly take their children believe that children's dentistry should be cheap, because they have only temporary teeth which require no more than a cheap filling. The cost of filling material is very small. The time spent in placing the filling is the basis on which dental fees should be set, and in most cases a greater amount of time is required to fill a child's tooth than an adult's. Parents should be taught this, along with the fact that it requires more skill to do this work.

The deciduous tooth should be restored for the service it can be to the growing child who needs food in the best digestible form, for this is certainly of value to general health and development. There is nothing more deplorable than a child with a good physique having decayed or abscessed deciduous teeth. These teeth harbor many organisms and often make an excellent breedplace for such diseases as common colds, diphtheria, Vincent's angina, pneumonia, and germs of all classifications, especially the streptococcus, along with other possibly contagious diseases. In approximately 90% of all diseases, the germs enter the body through the mouth or nose. This readily shows the advantage of preventing lodging or breeding incubators for such germs. To prevent such conditions, restoration is necessary and should be done on all deciduous teeth.

Many parents, and even doctors, will not permit their children to drink unpasteurized milk and insist on the most rigid precaution against the spread of disease but will allow their children to have a most insanitary oral condition that incubates and produces the most virulent type of germs. Those that have children well cared for medically, including dentistry, permit their children to mingle in the closest contact with other children in school and play who have a most fertile breeding field in the badly broken down decayed teeth. If a highly magnified picture of the germs breathed into the air from these poor-mouthed children were taken and shown to parents, doctors, teachers, and even the children, they would become horrified at the contacts with which their children are so closely associated.

Many adults have poor oral conditions that are caused from neglect of deciduous teeth. Deciduous teeth lost before the normal time for exfoliation will invariably cause malocclusion of the permanent teeth. Malocclusion is one of the greatest causes of pyorrhea, and pyorrhea causes from 50% to 75% of the extractions in permanent teeth This leads a patient with uncared for deciduous teeth to be a sure patient for the prosthodontist early in life.

Doctors and dentists agree that any focal infection should be eliminated. Many parents and teachers do not know that a *gum-boil* on a child's tooth is nothing less than an abscess and needs the attention of a dentist just as badly as the abscess of the adult which usually secures treatment from the dentist when the first excruciating pain develops. Most children have to suffer the pain, with probably an aspirin tablet for temporary relief. In most instances this condition is allowed to remain in the child's mouth until it becomes so chronic that the child's body is weakened almost to exhaustion in combating it. A large amount of pus is thrown into the system, often causing pyelitis, but usually clearing up completely when the tooth is removed. If this abscess is allowed to remain, the patient may develop a cardiac condition which will follow him throughout his life and often shorten his days.

It is time for the public to be informed strongly as to what the true facts are re-

garding the environment into which their children are thrown. With the rapid progress that we expect to see carried on for the next generation, it is hoped that our children will be able to look back, and feel as some of us do today about our ancestors, and wonder why any child ever lived to exfoliate all his deciduous teeth.

COOPERATION BETWEEN HEALTH DEPARTMENTS AND THE ARMY ON FOOD SANITATION IN DEFENSE AREAS

Contributed by

H. J. Thrasher

Principal Sanitarian

Army officials have sole authority for health measures applied on military reservations. They also have a responsibility and may assume some authority for conditions near reservations which might affect the health of troops. Conditions prejudicial to health of civilians and troops in areas around camps and defense plants are naturally of particular concern to local health departments. Their magnitude and complexity increase materially with the influx of construction workers and again when troops are moved in.

A number of ways of attacking and handling these mutual problems have been tried in various places in the state. Early and continuing contacts with Army officials have proved most effective. As soon as the location of a defense works or Army post is announced and the Army construction staff establishes headquarters, it has been found very helpful to call on them, discuss anticipated problems of mutual interest, explain the health department's organization, powers, limitations and plans; and solicit the Army's assistance in problems of mutual responsibility and concern. Especially after troops have been moved in and the staff, including medical corps personnel, has been assigned to the camp, it has proved most helpful to hold a meeting at which the post or camp commandant, post surgeon and such specialistic officers of his staff as he desires, county and city officials concerned, and the health department are represented. At this meeting, usually every problem of mutual concern, including those of venereal disease control, municipal sanitation, and food and milk sanitation is discussed. It is best to encourage free discussion. This may be done by an Army and health department representative presiding jointly so that each may call on the proper member of his group to define the problem as well as facilities and plans for attacking it. The local officials are also brought into the discussion, especially on problems relating to expansion of activities or facilities requiring financial support and law enforcement. In establishing policies with Army officers, it is important that the post commandant or at least the post surgeon make the agreement for the Army. When they have agreed to a plan, it becomes a policy for all subordinates. Army personnel rarely has a public health background. Army policies as outlined in military manuals are usually designed for application on military reservations and for troops in the field. Therefore, it is of especial value to Army officers to become familiar with health department plans, policies, and facilities in the area around a camp or plant. They have been most cooperative in adapting their plans for extra-cantonment work to those of the health department when properly approached. When new medical personnel is assigned by the Army, they should be promptly familiarized with past agreements and working arrangements.

The Army authorities can be of particular benefit to the health department in supplying moral support or backing for needed improvements. For example, if a public food serving establishment does not maintain standards satisfactory to Army inspectors, they can not close the establishment but they can and may post a military police in front of it to prevent soldiers from patronizing it. No appeal to local officials is of any avail when this is done, as is sometimes true when a local health department takes drastic action. The Army can even place an entire town out of bounds and prevent soldiers visiting it. Needless to say, such action brings quick inquiries from the operators and local officials as to what action is needed to lift the ban, whether it be material improvement at individual establishments or provision of funds for an additional inspector. At a number of camps arrangements have been made whereby joint Army and health department inspections are made from time to time. In fact it is wise to have all inspections made by the Army done with the health department inspector to avoid

possible confusing instructions; so that the health department may follow up instructions or suggestions made by the Army inspector, which can seldom be done promptly by the Army; and for the stimulating effect of such joint inspections on the operators.

In at least two instances in Alabama, the Army has provided, either by direct allocation or through the contracting engineer, additional inspection personnel for the local health department. In at least one area the Army provided trucks and civilian personnel to clean up trash in an area off the reservation which could not be served by the city.

The Army can also and has been of assistance in securing priorities for equipment made of critical materials. In addition, a statement on an application that material is to be installed in an establishment near an Army or defense post aids in securing priorities. Certain areas in Alabama partly through Army aid have been declared critical defense areas. More critical materials have been allotted to these areas thus making it distinctly easier to secure them for needed improvements.

In addition to direct aid and support from the Army, local officials and the public have invariably supported accelerated inspection programs in defense areas when properly and fully informed of the needs. With little planned effort it has been easy to convince food establishment operators, officials, and the public in defense areas that there is not time for the usual peace time pace of making installations or corrections. More frequent visits by local inspectors and usually shorter notice periods have been found necessary, especially for popular establishments where patronage increases sufficiently to tax facilities. Extra effort and even extra hours of the inspector may be required. If the inspector enters wholeheartedly into his work, giving whatever effort and time are necessary, the Army, local officials and food establishment operators have been quick to recognize this and cooperate willingly and promptly.

"Community mobilization of non-public health nursing personnel for all functions that do not absolutely require public health nursing training and experience, and which can be performed under the supervision of public health nurses, is quite generally under way. Both nursing and non-nursing, paid and volunteer personnel, are being considered in this connection. The value of these workers obviously depends greatly upon the provisions made for their inservice training and supervision."

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

	Dec. '42	Jan. '43	Est. Expect.† Jan. '43
Typhoid	4	4	10
Typhus	41	34	20
Malaria	118	403	75
Smallpox	0	8	2
Measles	10	37	311
Scarlet fever	108	101	101
Whooping cough	197	178	121
Diphtheria	51	37	75
Influenza	322	1052	1676
Mumps	22	116	88
Poliomyelitis	1	3	3
Encephalitis	0	2	1
Chickenpox	87	242	307
Tetanus	3	1	3
Tuberculosis	218	273	191
Pellagra	4	7	10
Meningitis	5	23	9
Pneumonia	286	683	648
Syphilis	1694	1459	976
Chancroid	23	19	6
Gonorrhea	649	779	322
Ophthalmia neonatorum	3	4	1
Trachoma	0	0	0
Tularemia	1	3	2
Undulant fever	7	2	2
Dengue	0	0	0
Amebic dysentery	0	1	0
Cancer	159	193	0
Rabies—Human cases	0	0	0
Positive animal heads	9	17	0

* * *

	Jan. '43	Feb. '43	Est. Expect.† Feb.
Typhoid	4	5	9
Typhus	34	21	10
Malaria	403	62	55
Smallpox	8	1	3
Measles	37	128	917
Scarlet fever	101	76	76
Whooping cough	178	145	99
Diphtheria	37	32	55
Influenza	1052	1019	3421
Mumps	116	206	186
Poliomyelitis	3	2	3
Encephalitis	2	0	1
Chickenpox	242	224	223
Tetanus	1	2	3
Tuberculosis	273	229	234
Pellagra	7	12	11
Meningitis	23	49	9
Pneumonia	683	604	666
Syphilis	1459	1796	1044
Chancroid	19	17	7
Gonorrhea	779	568	292
Ophthalmia Neonatorum	4	2	0
Trachoma	0	0	0
Tularemia	3	3	2
Undulant fever	2	1	2
Dengue	0	0	0
Amebic dysentery	1	1	0
Cancer	193	170	0
Rabies—Human cases	0	1	0
Positive animal heads	17	11	

*As reported by physicians and including deaths not reported as cases.

†The estimated expectancy represents the median incidence of the past nine years.

Nutritional Needs of American Youth—For protection of youth there should be continuance of basic research on foods, as well as on diagnosis and pathogenesis of deficiency diseases, and their possible predisposing influence to other disease We must never forget that our present advanced position of enlightenment came from painstaking and prodigious research. In this there must be no letdown in so far as it does not draw upon resources needed more urgently for other purposes in our present titanic struggle for life on a human plane.—*Kruse, Am. J. Pub. Health, Mar.* '43.

THE WOMAN'S AUXILIARY

Alabama has seven Auxiliaries with a total membership of 189 active members.

A board meeting was held in October with 15 members present.

Special emphasis has been placed on the promotion of Hygeia and the Bulletin.

The Auxiliary has bought defense bonds with the money accrued from the Lettie Daffin Perdue Memorial Scholarship Fund.

Our goal this year was to have every doctor's wife in some branch of war work. Our Auxiliary has been very active in all phases of Red Cross work and civilian defense. Some Auxiliaries have sold stamps and bonds regularly while others have furnished day rooms and recreation rooms in nearby Army camps. Some of our members run information centers, serve as chairmen of Nurses Aide and as chairmen of surgical dressing rooms in their town. Some are Grey Ladies, staff assistants, hostesses, canteen workers and motor corps members, while others give many hours of service to volunteer work. One Auxiliary has taken over the surgical dressing room in its town and has its regular meetings in this way. This Auxiliary has given over 4,000 hours of service.

Doctor's Day has been observed by all Auxiliaries.

The promotion of public health has also been one of our aims. There is a great need for more widespread health education, not only in venereal diseases but also in cancer control. We hope to do our part in helping to eradicate these diseases.

One Auxiliary sponsors a prenatal clinic, another sponsors a program on public health in the public school system, and another had special programs on defense and health.

Jefferson County maintains a Jane Todd Crawford Memorial Scholarship Fund of $300.00 which is loaned to a worthy medical student.

* * *

The February meeting of the Calhoun County Medical Auxiliary was held at the State Teachers College, Jacksonville, beginning with luncheon at 1:30 P. M. at Daugette Hall. Present were the wives of many of the county's physicians, including those of officers at Fort McClellan, and other visitors.

Mrs. A. E. Culberson presided at the luncheon. The guest speaker for the occasion was the President of the College, Dr. Houston Cole, whose theme was "Why We Fight This War."

The luncheon was served under the direction of Mrs. L. J. Hendrix, college dietician. The guests were seated at one long table which was prettily appointed with red roses for decoration.

The business session was held in the student lounge in Bibb Graves Hall. Routine business matters were transacted and officers elected. Each of the members was asked to donate a record for the recording machine at the Red Cross hut, which was also a donation from the Auxiliary.

Officers were elected as follows:
President, Mrs. A. E. Culberson.
First Vice-President, Mrs. Jerre Watson.
Second Vice-President, Mrs. W. M. Salter.
Secretary, Mrs. Wade Brannon.
Treasurer, Mrs. Hal Cleveland.
Corresponding Secretary, Mrs. N. T. Davie.
Historian, Mrs. T. F. Huey, Sr.

Mrs. Culberson, who was elected to serve her second term as president of this organization, is the wife of a prominent Anniston physician. She was reared in Jacksonville and received her education here, having graduated at the State Teachers College. For several years she taught in Anniston and since her marriage has been active in the social and civic life of that city.

Present at the meeting were the following:

Mrs. James Williams
Mrs. J. F. Rowan
Mrs. E. P. Green
Mrs. J. T. Flynn
Mrs. J. L. Johnston
Mrs. Houston Cole
Mrs. W. P. Lewis
Mrs. Eldon Bolton
Mrs. H. S. Huber
Mrs. J. D. Rayfield
Mrs. Neil Sellers

Mrs. Jerre Watson
Mrs. Hal Cleveland
Mrs. T. F. Huey, Sr.
Mrs. Wade Brannon
Mrs. W. M. Salter
Mrs. L. E. Morton
Mrs. I. P. Levi
Mrs. M. H. Shipp
Mrs. F. T. Handreau
Mrs. B. A. Weinstein
Mrs. O. P. Myers
Mrs. Milton Rogers
Mrs. C. Robert De Armas
Mrs. O. A. Palatucci
Mrs. W. H. Darden
Mrs. Herbert Singleton
Mrs. Haywood Moore
Mrs. A. E. Culberson
Mrs. W. K. Lloyd
Mrs. N. T. Davie
Mrs. George Tharp
Mrs. S. M. Pepper
Mrs. J. E. Knighten
Mrs. B. F. Caffey
Mrs. G. A. O'Connell

* * *

The Woman's Auxiliary to the Jefferson County Medical Society held its monthly meeting March 2nd with the following as hostesses:

Mrs. D. C. Donald
Mrs. B. O. Robertson
Mrs. B. F. Posey
Mrs. Paul Shannon
Mrs. W. N. Jones
Mrs. J. P. Robertson
Mrs. Oliver Welch

Dr. Martin of the Jefferson County Health Department was speaker, and Mrs. O. R. Grimes, of Gadsden, president of the Alabama Medical Auxiliary, was a guest.

Others present were:

Mrs. A. E. Casey
Mrs. Ben N. Carraway
Mrs. Robert Cornwell
Mrs. Dan Coyle
Mrs. C. D. Gaines
Mrs. Estes Hargis
Mrs. H. A. Harris
Mrs. B. A. Hughes
Mrs. W. B. Rountree
Mrs. James S. Snow
Mrs. David Sparks
Mrs. W. L. Shackelford
Mrs. Robert M. Pool

Chaplain George N. Gilligan of Camp Sibert was a most interesting speaker when the Etowah County Medical Auxiliary held its February meeting at the Turrentine Avenue Club.

Chaplain Gilligan, who spent 10 years in China, told of his life in that country, and discussed his work in the Army.

Those present were Mesdames William H. Blank, S. J. Motyka, T. C. McKay, Howell Cross, Amos C. Gipson, Mercer Rowe, George Faucett, Euclid Isbell, DeWitt Faucett, J. O. Morgan, N. H. DeJanney, F. W. McCorkle, A. W. Graves, L. B. Nicholson, and four visitors, Mrs. Liebensperger, Mrs. McGuire, Mrs. Buckner, and Chaplain Gilligan.

A Tribute for Doctors' Day—We write voluminously about great agressors and their bloody trails but few know of those men who fought for years, many losing their lives in the battle to make life safe. We honor Columbus and others because they sailed unknown seas and discovered new lands. Who honor those men who for years, with the unknown before them, submitted to experiments on themselves and discovered the microbes which defend them, often losing their lives to prove their observations and beliefs?

Kings and warriors have changed our destinies, but the medical profession and its protection have shaped and changed our civilization. Remove it today, and the speed of modern transportation would increase the ravages and the desolation of pestilences which destroyed other generations.

When illness comes, does the watcher at the bedside want to hear of statesmen and soldiers? No! The words which flood her being with relief and hope and courage come from the observer at the window, "The Doctor has come!" In those four words, the accumulated medical knowledge and experience of all times come to our protection and relief.

History is unjust and inadequate when it omits these benefactors and pioneers. The every-day world knows nothing or little of the weary pace of uncounted doctors, uncomplaining, unknown, unsung, whose work is their glory. We, your wives and families, realize this and we believe that the knowledge of the valiant struggles and sacrifices which have been endured to protect communities and guard individuals should be promulgated.

Today, we honor the pursuers of truth, the practitioners of the Medical Arts wherever they have lived, and regardless of time. We salute you, our husbands, our physicians! If the only certain happiness is doing good, then your satisfactions are unique. You preside in the struggle of life over death and ask neither notice nor appreciation. Space or time does not limit the giving of yourselves, and your reward is the inward rejoicing that you have done your best. As physician and as citizen, again we salute you, and pray that we may walk through the years beside you, our love and respect sustaining you until we may enter with you into the Living Peace.—*Mrs. John Bonar White in North Carolina Medical Journal, March '43.*

BOOK ABSTRACTS AND REVIEWS

How to Learn and Advance. By Samuel Kahn, M. D., Ph. D. Cloth. Price, $2.00. Pp. 196. New York: The Alpha Press, 1942.

Dr. (twice a doctor) Kahn has done a most painstaking job of assembling facts, and the reader has here, within the brief compass of 196 small pages, an imposing array of them. Some are fairly familiar to the average person. Others are not so well known.

The reading audience to which "How to Learn and Advance" is directed appears to be primarily American youth, especially collegiate American youth, or what is left of it after its severe losses to Selective Service, war industry, and the growing tendency to put less emphasis upon education and more upon scientific killing of the enemy. But it also serves as a guidebook for adults anxious to get ahead.

There are suggestions as to how to get the most out of a library, a baffling labyrinth to most people. There is advice on cultivating a retentive memory. There is even a friendly word of caution, italicized for emphasis, regarding undergraduate love affairs, which, the reader is warned, may interefere with his studies. Some of the advice given, unfortunately, comes under the head of emphasizing the obvious, as, for instance, the following:

"It is sinful to permit fraternities to interefere with your academic and practical studies. . . . It is very difficult to control such an emotional situation (being in love). . . . No one can maintain a high degree of efficiency if distractions are present. . . . Don't hesitate in getting started (to study). . . . Do not look for excuses. . . . It is of the utmost importance to have good tools, if you really want to do your job thoroughly and well."

Among the book's bits of knowledge which should be of interest to the physician is the fact that the American Medical Association publishes no less than 22 books and magazines (which are listed), to say nothing of the pamphlets issued by the A. M. A.'s numerous Councils.

"How to Learn and Advance" does not deserve to be made required reading, even for college students, but few will fail to find something worthwhile in its pages.

J. M. Gibson.

Manual Of Dermatology. By Donald M. Pillsbury, M. D., Marion B. Sulzberger, M. D., and Clarence S. Livingood, M. D. Military Medical Manuals. Issued under the Auspices of the Committee on Medicine of the Division of Medical Sciences of the National Research Council. Cloth. Price, $2.00. Pp. 421 with 109 illustrations. Philadelphia and London: W. B. Saunders Company, 1942.

This book was published as one of a series to be used in the field of military medicine. However, it is undoubtedly one of the finest synopses that can grace the desk of the civilian physician. It is small and compact.

Among its features is the outline form of presentation. All equivocable material is omitted and references therefore are nil. The important facts or warnings are placed in black lined inserts in order to stop or attract the physician's attention.

Chapter 3 consists of a series of diagrams showing the usual locations of the more common diseases. Pages 53 to 130 are purely a series of photographs in black and white of the most common lesions. These illustrations demonstrate not only careful selection but excellent reproduction. These 80 pages really should be available to every practicing physician.

The treatments that are used are placed in the order of their availability. First are those that can be treated in the field or at home, and then those that require hospitalization. Much space is saved by referring constantly to the appendix for the prescription formulae. Rare diseases are omitted and the text covers completely all of the skin diseases seen by the average physician.

Its small size and low price make this an attractive volume. Without hesitation the reviewer recommends this to every physician who sees patients clinically.

Norman Van Wezel.

Fractures. By Paul B. Magnuson, M. D., F. A. C. S., Assistant Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital and Wesley Memorial Hospital, Chicago. Fourth edition. Cloth. Price, $5.50. Pp. 511, illustrated. Philadelphia: J. B. Lippincott Company, 1942.

This book, written primarily for the physician who first sees the fracture, has an abundance of material on splinting, first aid, debridement and treatment of shock; and very little written on operative treatment. The text is of sufficient length to include the usual fractures and the treatment is based on the author's personal experience. The reader is not given a variety of methods to choose from but rather one simple, definite type of treatment for each case.

Excellent anatomical drawings illustrative of the mechanism of the fracture and factors to be overcome in reduction are presented at the beginning of each chapter. Then, the most typical x-rays are presented in excellent reproduction, together with methods of reduction employing the simplest mechanical devices which are available in every hospital or even physician's office. These methods are probably the simplest and safest to be employed by the doctor first treating the fracture and should be used even though supplemental procedures may later be necessary.

The chapters on injury to the spine and skull, and neurological complications, are prefaced by articles on spinal shock, differentiation of cord lesions, interpretation of reflexes, etc. Fractures of the jaw and facial bones are not included in the text. There are separate articles on physiotherapy, occupational therapy, exercise and exercise apparatus with a chart indicating the period during convalescence when these types of therapy should be employed.

H. Earle Conwell.

The Hand, Its Disabilities and Diseases. By Condict W. Cutler, Jr., M. D., F. A. C. S., Associate Surgeon, Roosevelt Hospital, Director of Surgery, Welfare Hospital; Consulting Surgeon, New York Dispensary; Chief, Emergency Medical Service, New York County; Fellow of the American Surgical Association. Cloth. Price, $7.50. Pp. 572, with 274 illustrations. Philadelphia and London: W. B. Saunders Company, 1942.

Every physician sees injuries and infections of the hand. The management of the early conditions determines the final outcome. The general practitioner who must treat or see all of the minor injuries or infections must, therefore, be acquainted with the special methods and precautions that are necessary in the treatment of the hand.

Dr. Cutler has successfully completed a most difficult task in the presentation of this volume. It covers the anatomy of the hand adequately enough, omitting all of the unnecessary details. The illustrations are profuse and well drawn.

Repeatedly throughout the chapters on infections, injuries and foreign bodies he cautions concerning incisions, concerning ample drainage, and concerning overambitious dissections. He deals with each of the infections individually and completely. The site of incisions are demonstrated by sketches, thus preventing errors. The extreme caution concerning incisions is necessary in order to prevent flexion deformities which disable the hand.

In the specific and chronic infections are included gas gangrene, tetanus, erysipelas, tularemia, anthrax, gonorrhea, syphilis, tuberculosis and fungi. In the chapter on injuries are included burns, abrasions, contusions and foreign bodies. He deals with the subject thoroughly.

In regards to burns, Dr. Cutler stresses the necessity of early grafts as soon as the granulating surface will permit. In puncture wounds he warns that a minor puncture may turn out to be major situations. Despite this importance, the subject is dealt with rather briefly, whereas foreign bodies, which are among the most common injuries seen in industrial medicine, receive only 4½ pages of brief description.

In regard to fractures, dislocations and amputations, Dr. Cutler makes up for this brevity by devoting almost 100 pages and an equal number of illustrations to this subject.

The latter half of the book is more useful for the orthopedic and plastic surgeon than for the general practitioner. It deals with repair, reconstruction of deformities, and tumors. The last chapter on constitutional diseases as reflected in the hand should be read by every internist.

All in all, this volume of 550 pages represents an ambitious as well as successful presentation of the disabilities and diseases of the hands.

Norman Van Wezel.

Diseases of The Skin. By Frank Crozer Knowles, M. D., Professor of Dermatology; Edward F. Carson, M. D., Clinical Professor of Dermatology; and Henry B. Decker, M. D., Assistant Professor of Dermatology, Jefferson Medical College, Philadelphia. Cloth. Price, $7.00. Pp. 621, illustrated with 272 engravings. Philadelphia: Lea and Febiger, 1942.

The fourth edition of this excellent text has been thoroughly revised to conform to newer knowledge concerning the etiology of a number of conditions. Many new therapeutic agents are described and new uses of old agents brought out. The clear, concise descriptions and excellent illustrations are the same as in previous editions. The introductory chapters on anatomy, physiology and pathology are of the same usual interest.

F. W. Riggs.

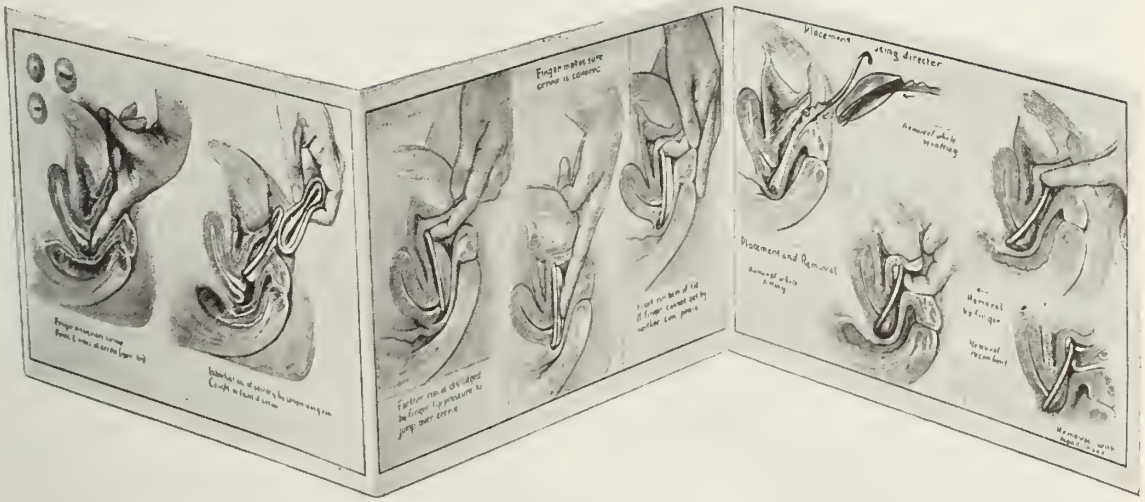
Year Book of Pediatrics. Edited by Isaac A. Abt, D. Sc., M. D., Professor of Pediatrics, Northwestern Medical School; Attending Physician, Passavant Hospital; Consulting Physician, Childrens Memorial and St. Luke's Hospital, Chicago; and Arthur F. Abt, B. S., M. D., Assistant Professor of Pediatrics, Northwestern Medical School; Associate Attending Physician, Michael Reese Hospital; Attending Pediatrician, Chicago Maternity Center, etc., 1941. Cloth. Price, $3.00. Pp. 512. Chicago: Year Book Publishers, 1942.

The Year Book of Pediatrics is a small compact annual volume which represents a cross section of the world's pediatric literature published in 1940 and 1941. The present volume maintains the excellent standards of the earlier editions and is composed of abstracts taken from the leading current and foreign journals. Current world events, however, have reduced the foreign literature arriving in this country and this is reflected by the scarcity of articles. The editors of this annual are Isaac and Arthur Abt, two prominent names among pediatricians and their authoritative evaluation of the literature greatly enhances the value of the book. A multitude of subjects are covered in the 1941 edition but articles on the sulfonamides and vitamin therapy are still overwhelmingly predominant.

Resuscitation of the newborn is again up for discussion, with the blame of asphyxia being laid to too much maternal sedation. The newer knowledge of nutrition has brought forth many articles on the proper feeding of infants and with the continuation of so much new information one wonders how infants ever survived before the sulfa-vitamin era. The chapter devoted to infectious diseases is particularly interesting and encouraging because of the favorable results of chemotherapy of the cerebrospinal diseases. The etiology of poliomyelitis is again aired out with no definite conclusions. There is only one article devoted to the Kenny treatment. The chapter on therapeutics and toxicology is always of interest for it is here that one finds the clinical results from the newer drugs. One can find an article on any pediatric subject of current interest in this little volume and because of its condensed nature it is almost indispensable to the busy pediatrician or practitioner who wishes to keep abreast of the new developments in pediatrics. The number of journals represented in this book are legion and no one practicing physician could ever hope to cover even a fraction of them in any one year; in fact there are few medical libraries in the country which would have all of these journals. A most attractive thing about this book is the price—a better value in medical literature could not be found.

Philip K. Burwell.

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Miscellany

STUDY INDICATES SULFATHIAZOLE MAY BE A GONORRHEA PREVENTIVE

ENCOURAGING RESULTS OBTAINED BY GIVING IT BY MOUTH TO AN EXPERIMENTAL GROUP OF 1,400 SOLDIERS BEFORE EXPOSURE

From results obtained in an experimental group of soldiers, sulfathiazole administered by mouth appears to be an effective preventive against gonorrhea and chancroid, Capt. James A. Loveless and Col. William Denton, Medical Corps, Army of the United States, declare in The Journal of the American Medical Association for March 13 in a preliminary report of their investigation.

"Its administration in this experimental group," the two men say, "has not been attended by serious reactions. Sufficient evidence has been obtained to justify further extensive study of this problem."

In the introduction to their report the two officers say that "Our purpose in this study is to determine whether the prophylactic administration of sulfathiazole prevents the development of gonorrhea. The existence of an inordinately high gonorrhea rate among certain troops makes the development of an easily administered chemical prophylaxis particularly important. The following incomplete experimental data are published as a preliminary report because of the encouraging results already achieved . . ."

The test group in the study consisted of a company of approximately 1,400 Negroes and the control group of approximately 4,000 Negro troops from the same post. In summarizing their report the authors say that "A company of approximately 1,400 Negro troops was given sulfathiazole prophylaxis of 2 Gm. before leaving the fort on pass. Those taking station prophylaxis received no further drug. All others received 4 additional Gm., 2 on returning to the fort and 2 the next morning.

"In this company there has occurred a phenomenal disappearance of gonorrhea and chancroid. Excluding the 'failures' not under the influence of the drug at the time of exposure, the gonorrhea rate dropped to a level of 8 per thousand yearly as com-



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P. O. Box 2896, Woodlawn Station, Birmingham, Alabama **Phones 9-1151 and 9-1152**

pared with 171 per thousand in the control group, and the chancroid rate dropped to 6 as compared with 52."

Commenting on their study the two men say that "It is recognized that this presentation is preliminary in nature. However, it is believed that sufficient evidence is presented to prove that sulfathiazole prophylaxis will prevent gonorrhea and chancroid. It is our opinion that, under certain conditions and in a final form yet to be developed, prophylactic sulfathiazole administration would produce a remarkable decline in gonorrhea and chancroid in the Army. It is admitted that certain dangers are involved in administering this drug, particularly on a large scale, and that the answer to certain questions has not yet been determined. In view of the magnitude of the venereal disease problem and its effect on man days, we believe that the risks are justified.

"This experiment is being continued in an effort to simplify the administration of the drug and to obtain further corroborative data. . . . Until such data are available the study is not being extended, nor is it felt advisable that such measures be made routine practice."

The authors point out that the cost of this prophylaxis has been about 10 cents per soldier monthly. In a footnote they point out that since the preparation of their report 20 soldiers in the test group were subsequently admitted to the Station Hospital for various illnesses. All of them had previously received sulfathiazole as a prophylaxis. All of this group received sulfathiazole as a part of the treatment for the illness for which they were admitted to the hospital and in the entire group the treatment response to the drug was satisfactory and there were no reactions.

URGES TURNING IN OF ALL QUININE NOT NEEDED TO TREAT MALARIA

A plea for physicians of the United States to turn in to the National Quinine Pool all supplies of quinine is contained in The Journal of the American Medical Association for March 13. The Journal says:

"Every physician is urged to contribute to the National Quinine Pool all supplies of quinine and other cinchona salts and alkaloids not absolutely essential in his practice for the treatment of malaria.

CONSIDERATION OF IRRITATION OF THE NOSE AND THROAT BECOMES INCREASINGLY IMPORTANT

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THE ADMINISTRATION OF PENTOTHAL SODIUM OXYGEN ANESTHESIA

By

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And

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Sodium pentothal, a barbituric compound, has proved to be the best drug employed thus far for intravenous anesthesia. In August 1936 we began to use evipal for short anesthesias. About that time Abbott Laboratories made sodium pentothal available for anesthesia of short duration, and a supply was sent us for a trial. The anesthesia was so smooth and pleasing in effect to patients that they hardly realized it had been administered. If they had to have a second operation, they would beg for sodium pentothal. When it was expected that the operation would be of short duration, we would give it to them. As it was so pleasing to both patient and surgeon and gave such complete relaxation in abdominal surgery, we began cautiously to venture further with it. We were trespassing on grounds of uncertainty because we were using a new anesthetic. In most instances the breathing became slow and shallow, and the patient developed a pallor which was quite disturbing to the anesthetist as well as to us. We conceived the idea that the continuous administration of oxygen might eliminate this pallor so we began to administer straight oxygen through a nasal tube. Usually, as soon as the patient stopped counting, that is, immediately after he was under the effect of the anesthetic, the breathing was a little slow and there was a slight pallor, but as soon as the administration of oxygen was begun, the breathing and color came back to normal.

When we began to use oxygen continuously, we used two anesthetists: one to administer pentothal, and the other to give oxygen and check the pulse rate and blood pressure, and watch for any neurologic signs that might develop during the anesthesia. The continuous administration of oxygen with intermittent injections of sodium pentothal proved to be very satisfactory in all of our surgery. As to patients in shock, we found that, when means were instituted to correct the condition that caused the shock and the patient was treated for shock during the operation, the condition was much better at the end of the operation.

In collaboration with Abbott Laboratories, we did extensive research on animals, including rats, rabbits, cats, dogs and monkeys. The results of some of these experiments have been reported in previous papers. Dr. Kohn-Richards anesthetized one monkey for 18 consecutive days and reopened his abdomen each day removing tissue from the liver for microscopic examination. He found no change in the liver at the end of 18 days, except some fatty infiltration, which is common in all types of anesthesia. Recently we used four dogs for an experiment. All four were anesthetized with pentothal sodium, the abdomen was opened, and tissue removed from the liver for microscopic study. Two dogs were then held as controls, the other two being anesthetized for a twenty-minute period every 24 hours for 21 days. At the end of 21 days all four of the animals were sacrificed under pentothal sodium anesthesia. Except for fatty infiltration, there was no change in the liver cells of any of the dogs, and there was as much fatty infiltration in the control animals as in the other two.

From the Department of Surgery, Norwood Hospital and Clinic.

We have made electrocardiograms on patients before, during and after administration of pentothal sodium oxygen anesthesia. There were no significant changes. Liver and kidney function tests were made in many instances before and after operation. Those patients who had known kidney pathology were carefully checked before, during and after anesthesia. We were not able to detect any change following anesthesia. We have used pentothal sodium in patients with intense jaundice and in cases of acute hepatitis where the liver was immensely enlarged. We have had the privilege of reopening some of these patients for different pathologic conditions that arose later on and at that time removed a section of the liver for pathologic study. We were not able to determine that there were any pathologic changes in the liver resulting from anesthesia.

DEVELOPMENT OF APPARATUS FOR ADMINISTRATION OF PENTOTHAL SODIUM

After a period of time, a number of friends became interested in this type of anesthetic, among them being Dr. T. C. Davison and Dr. F. F. Rudder of Atlanta; Dr. Arthur Porter of Memphis; and Dr. Gideon Timberlake of St. Petersburg, Florida. In an attempt to eliminate one of the anesthetists, Dr. Davison and Dr. Rudder devised a gadget that could be attached to the arm piece, whereby a syringe filled with pentothal solution could be attached to a ratchet, with a rubber tubing leading from syringe to the needle which is to be inserted into the vein. There is a thumb screw control which works as a guard for the thumb shaft with a projection that presses the piston into the syringe when the screw is turned. This is done with minute accuracy thereby giving perfect control over the administration of the pentothal solution. By using this apparatus, one anesthetist can easily take care of the patient, once the apparatus has been set up, the needle inserted into the vein and the patient anesthetized. Practically all of the anesthetist's time can be used for administering oxygen and watching the patient, for, if more pentothal sodium is needed, only a few seconds are required to turn the thumb screw and inject a few more minims of solution.

Later on, W. E. Gilson, of Madison, Wisconsin developed an outfit in which a mixing adapter was attached to the needle, whereby there was a two-way flow so that one could use saline continuously through one side, and through the other side pentothal solution could be administered with a syringe attached to the adapter by rubber tubing. We have tried this apparatus and are not quite pleased with it because we do not think it necessary to give saline as an adjunct to the anesthetic, and the use of a syringe with hand control is not as accurate as with the thumb screw control. The Thomas apparatus is another type that has been developed. This has a holder for the syringe and a two-way stop-cock with one lead into a bottle with pentothal sodium solution and the other to the arm. When the syringe is filled from the bottle, the cock is turned to lead to the arm and one can inject pentothal solution as needed. He also uses a two-way adapter to carry on administration of intravenous solution other than the pentothal. This type of administration has not proven satisfactory in our hands because one cannot accurately control the amount of pentothal given. We feel that, if the patient's condition is such that he must have intravenous medication, some other person should administer it in another vein and leave the anesthetist free to take care of the patient. Solkow and Clements advocate giving pentothal intravenously by the drip method. We think this method should be condemned as we do not feel that the anesthetist has sufficient control over the amount of pentothal administered. They used it only in relatively short anesthesia and in small doses.

After attempting for sometime to use the Rudder apparatus, and watching the difficulty that the anesthetist had, we devised an apparatus which we feel meets all the requirements to produce a smooth and easy anesthesia. In the Rudder apparatus the syringe cannot be refilled without removing it. The apparatus which we have devised—a modification of the Rudder—is composed of a small stand that holds a graduate container with a Luer-Lok tip, and rubber tubing that leads to a two-way Luer-Lok cock. A syringe which is fitted into a ratchet (with thumb screw control) is also attached to the two-way cock. (See Fig. 1.) A rubber tubing with a Luer-Lok tip is fastened to the two-way stop-cock and leads to the arm. The

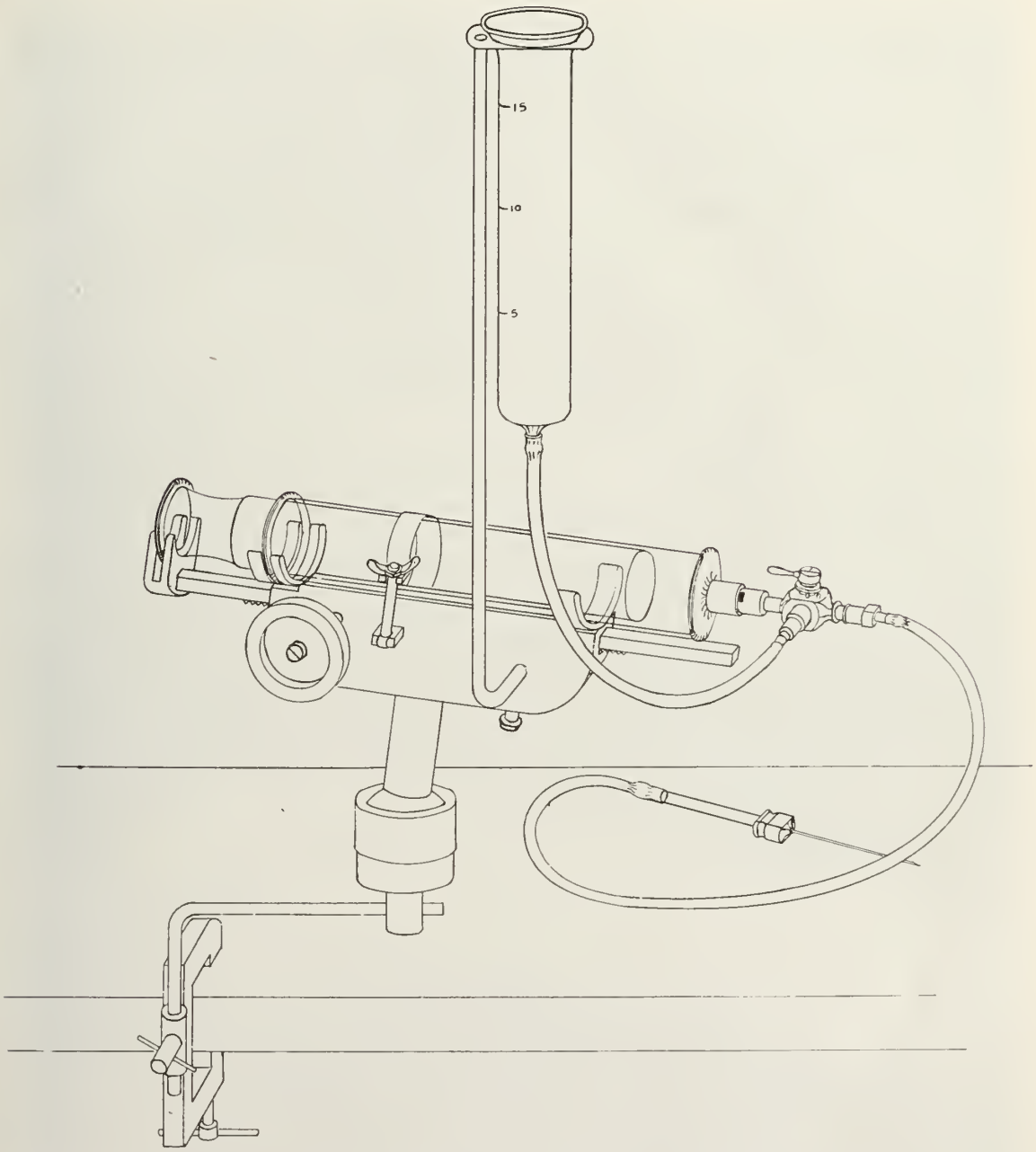


Fig. 1. Carraway Apparatus for Administration of Pentothal Sodium

needle to be inserted into the vein is connected to the end of the tubing by a glass adapter. With this apparatus the anesthetist does not have to fill the syringe more than 1/3rd full as it is easy to refill it, and that prevents the piston from sticking or getting locked as it does when the syringe is practically full. With the thumb screw one can administer any amount of solution in an accurate manner. One anesthetist can take care of the administration of both oxygen and pentothal.

TYPE OF PATIENT AND OPERATION

We have not been able to find any contraindication to the use of pentothal sodium anesthesia in any type of patient. We have administered it in 10,437 operations in individuals ranging in age from 2 to 92 years. In strong robust individuals in good physi-

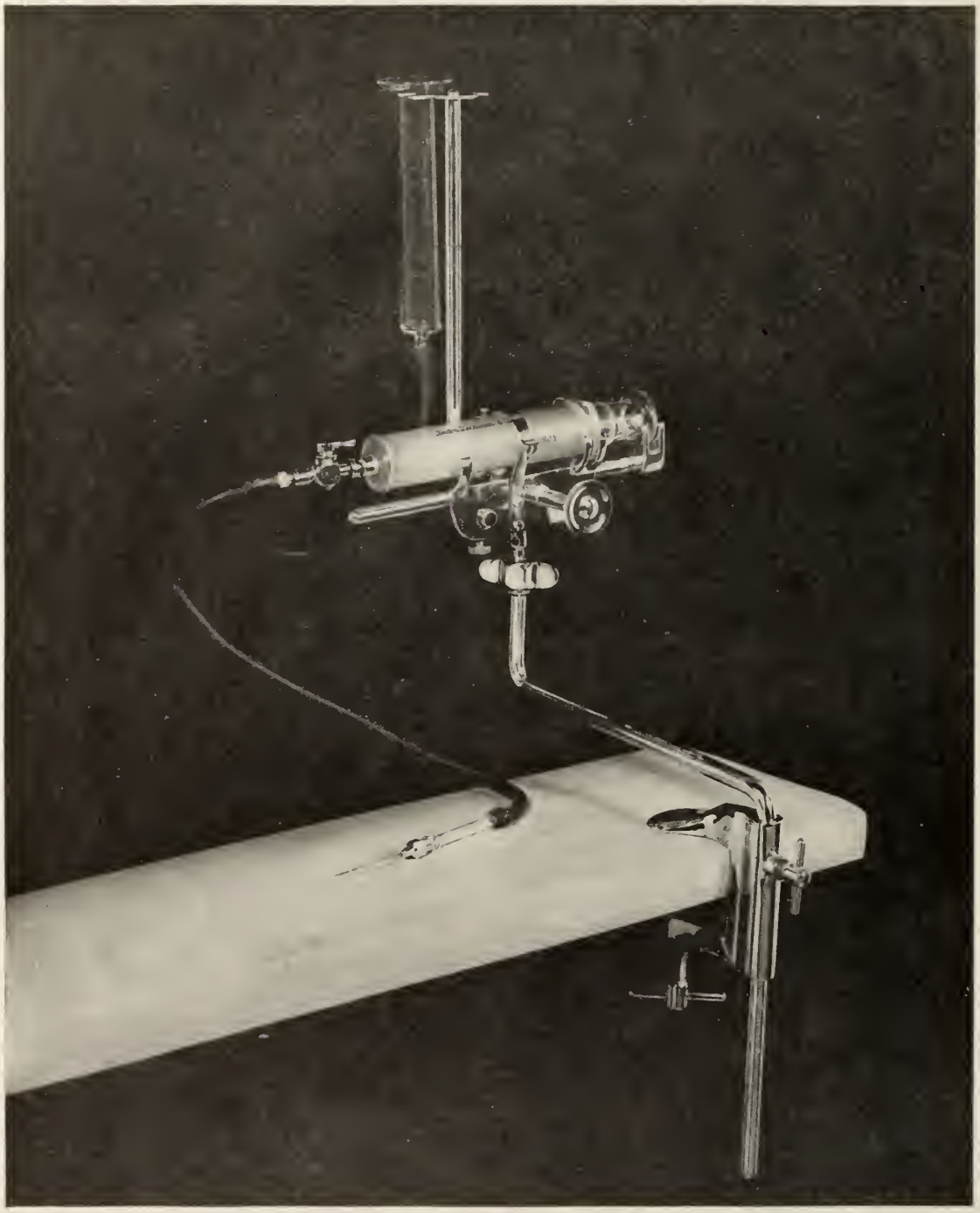


Fig. 1a. Carraway Apparatus for Administration of Pentothal Sodium

cal condition and in what we call selected type of surgery, we begin with a 5 per cent solution and, after the patient is anesthetized, the anesthetist switches to a weaker solution, 2½ per cent or less, as he feels is necessary to keep the patient surgically anesthetized and give proper relaxation of the abdomen. We have administered it to patients in extreme shock from hemorrhage who were practically pulseless and unconscious from the loss of blood, as in one case of ectopic pregnancy. In this case, glucose was given intravenously in one arm, and, as soon as the patient was prepared, the ad-

ministration of one per cent pentothal solution was begun in the other arm, straight oxygen being administered by means of the B. L. B. mask. As soon as the abdomen was opened, the blood was salvaged and citrated, and, instead of glucose and saline, blood transfusion was given. The patient was taken off the table in excellent condition. We have given pentothal to patients who had chronic nephritis, chronic jaundice due to pathology of the pancreas and common duct stones, in ruptured peptic ulcers with general peritonitis, and in all types of appendicitis. The number of cases in each type of surgery in which we have used pentothal is listed in Table I.

TABLE I
OPERATIONS UNDER PENTOTHAL OXYGEN ANESTHESIA
AUGUST 1936-DECEMBER 1942

Type of Procedure	*Number of Patients*
Amputation of extremity	255
Amputation of penis	1
Appendectomy	2,107
Appendectomy and hemorrhoidectomy	1
Arthrodesis	2
Aspiration of knee	3
Aspiration of trochanter	1
Bone graft	32
Cesarean section	66
Cecostomy	1
Chiloplasty	3
Cholecystectomy	180
Cholecystostomy	11
Cholecysto-duodenostomy	4
Cholelithotomy	2
Coccygectomy	7
Colectomy, partial	2
Colostomy	44
Colporrhaphy	6
Cranioplasty	9
Cryptorchidoplasty	7
Decompression	6
Delivery (obstetric)	180
Dilatation of oviducts	1
Diverticulectomy and appendectomy	3
Draining of lacerated kidney	1
Encephalogram	2
Epididymotomy	27
Excision of hypoglossal cyst	3
Excision of pilonidal cyst	14
Excision of sinus of ear cleft	1
Eye operation	61
Exploratory operation of wrist	1
Exploratory laparotomy	87
Fistulectomy	105
Freeing of postoperative adhesions	23
Ganglionectomy	21
Gastric resection	34
Gastroenterostomy	39
Gastrojejunocolorrhaphy	1
Gastrostomy	6
Gastrorrhaphy	1
Gastrotomy (removal of hair-ball)	1
Gunshot wound of intestine, sutured	21
Hemorrhoidectomy	368
Herniorrhaphy (all types)	547
Hysterectomy	678
Hysteropexy	158
Ileocolostomy	3
Intestinal anastomosis	5
Laminectomy	10
Ligation of aneurysm of face	1
Ligation of gastric vessels	3
Ligation of oviducts	63
Lymphadenectomy	5
Mammectomy, simple	48
Mammectomy, radical	45
Mammectomy, partial	37
Mastoidectomy	29
Meniscectomy	42
Nephrectomy	27
Nephropexy	31
Nephrotomy (or pyelolithotomy)	34
Oophorectomy, partial or complete	159
Orchidectomy	11
Osteotomy	9
Palatoplasty (cleft-palate)	4
Pancreatectomy, partial	1
Pancreolithotomy	1
Perineorrhaphy	164
Proctectomy, partial	5
Plastic operation	41
Prostatectomy, partial or complete	46
Pyloroplasty	2
Reconstruction of anterior ligament of knee	1
Reduction of fracture, open	219
Reduction of intussusception	4
Removal of hygroma	1
Removal of fibrosarcoma	1
Removal of urachus	1
Removal of bladder tumor	1
Removal of bunion	1
Repair of nerves	3
Repositioning of ureter	3
Release of intestinal obstruction	11
Resection of peptic ulcer	59
Resection of stricture of colostomy	1
Resection of varicose veins	43
Resection of cecum	1
Resection of Meckel's diverticulum	1
Resection of branchial sinus	1
Salpingectomy	231
Sequestrectomy	32
Sesamoidectomy	1
Skin graft	40
Sinusotomy	7
Spinal fusion	3
Splenectomy	4
Splenorrhaphy	1
Suprapubic cystotomy	51
Suturing of perforated peptic ulcer	7
Sympathectomy	9

Thyroidectomy	147
Thorocotomy	41
Tonsillectomy (and T and A)	39
Trachelorrhaphy	19
Transverse incision of ilio-tibial band	1
Urethrotomy, external or internal	34
Urethral diverticulectomy	4
Ureterolithotomy	5
Varicelectomy	15
Minor operations, including closed reductions, application of casts, circumcisions, suturing of lacerations and tendons, etc.	3,429
Total	10,437

(Note: In cases where there were two or three operations performed under one anesthetic, only the major operation is listed.)

PREOPERATIVE PREPARATION OF THE PATIENT

The patient is prepared for operation, when it is possible and not an emergency, the evening before operation. If the patient is nervous and restless, 1½ or more grains of sodium phenobarbital is given to insure a comfortable night. The following morning, 30 minutes to one hour before the patient is placed on the operating table, the regular preoperative drug is given. Whatever it may be, it should contain atropine sulfate.

TECHNIQUE OF ADMINISTRATION

The arm rest (preferably one that can be adjusted to different positions of the patient) is attached to the side of the operating table. The apparatus is then attached to the arm rest on the side of the arm opposite from the anesthetist and the 20 cc. Luer-Lok syringe with two-way stop-cock is put in place and fastened. The tube with the Luer-Lok tip leading from the solution container is connected to the two-way stop-cock on the syringe. A second piece of tubing, on one end of which is the glass adapter, is also connected to the two-way cock. The end that is to be attached to the needle is placed in a slot in the top of the apparatus. After completing all connections, the handle on the stop-cock is turned so the solution will flow into the syringe, when the piston is withdrawn, by turning the thumb screw. After the syringe has been filled to the desired amount, the handle on the stop-cock is turned so as to direct the solution into the tube that will be attached to the needle in the patient's arm. This tubing is filled in order to expel all air. The apparatus is then switched around out of the way while the patient's arm is being prepared.

The anesthetist places the patient's arm on the rest, cleans and sterilizes the site where the needle is to be inserted, and applies a constricting band (usually rubber) above the point of insertion. We prefer that the anesthetist use a 1½ cc. syringe and a 22 gauge needle to get into the vein. After he has gotten into the vein and drawn blood into the syringe, the 1½ cc. syringe is then disconnected from the needle. The glass adapter on the end of the tubing leading from the two-way cock on the 20 cc. syringe is connected to the needle, the air having been expelled from the tubing and tip. At this point the patient is asked to count as the solution is slowly administered into the vein by turning the thumb screw. As soon as he stops counting, the anesthetist stops administering the pentothal solution. The patient's tongue is pulled forward, an air-way is inserted to assure a clear air passage, the B. L. B. mask is adjusted to the face and continuous administration of oxygen begun. Immediately the respiration increases, both in volume and rate, as is accurately determined by the inhalation bag on the mask. The surgeon tests the sensibility of the patient by making a light stroke on the skin where the incision is to be made, and, if there is no sensation, he proceeds with the operation. If there is sensation, the surgeon should wait until a few more minims of solution are injected. In cases of abdominal operations, if there is the slightest resistance or strain, the surgeon should discontinue manipulation until the anesthetist has slowly administered enough pentothal to produce sufficient relaxation. This will take less than a minute. The surgeon should assist the anesthetist by informing him when there is a slight response to pain or any resistance and ask him to administer a few more minims of solution. If the surgeon is doing a gastric or intestinal resection and he is gentle in his work after he gets into the abdomen, the patient will need very little more pentothal, if any, until he begins to close the abdomen. The anesthetist should never give more pentothal solution than the patient's condition demands. In elderly people who have intracapsular fractures of the hip, the surgeon can make his incision and adjust his pins. While the x-ray picture

is being made and developed, the anesthetist can discontinue to give pentothal, but continue with oxygen. Then after the surgeon has seen the film and begins with his operative procedure, if the patient shows any indication of pain, a few more minims of solution can be administered—just enough to stop resistance. In this way, the patient can be kept under anesthesia as long as needed —five hours or more, if necessary—and then taken off the table in a good condition.

In toxic goiters, we vary our technique a little because of the anxiety of the patient. On admission, the patient is advised that he is going to be operated upon, but he is not told just when. Every morning before breakfast the anesthetist administers vitamine B_1 intravenously to the patient. This is done before breakfast in order not to create suspicion on the morning of operation. On that morning the same anesthetist gives the patient sufficient pentothal to produce the first stage of anesthesia, a light narcosis. The patient is then placed on a stretcher and carried to the operating room and pentothal is administered as described above. The patient has been advised that he will be placed under an oxygen tent after the operation, so when he wakes up in his room under the tent he is not at all disturbed. They also have sufficient sedation to carry them on for a few hours. They usually smile and say, "You pulled one on me." Small doses of phenobarbital keep the patient's nervous condition under control and can be administered without fear.

If, for any reason, it is desired that there be quick recovery from the anesthesia, 3 to 5 cc. of coramine may be given intravenously. A few whiffs of straight carbon dioxide, followed by straight oxygen, may be given. Deep, labored breathing will be produced by the carbon dioxide and the straight oxygen will give the patient an outstanding pink color. We do not resort to this type of hastening of recovery unless it is for some specific reason. We prefer to let the patient sleep for one or two hours if the respiration and color remain within normal limits.

Anesthetists who have given sufficient pentothal sodium anesthetics will develop confidence in it and learn that it is not necessary to administer it continuously during the operation but only as the patient requires it. The amount to be administered cannot be calculated by any mathematical formula and if that method of administration is used, one is certain to run into trouble. Pentothal sodium oxygen anesthesia should be administered just as any other type; that is, to give as little anesthetic as is possible to keep the patient surgically anesthetized.

We classify anesthesia in three stages: (1) light, presurgical; (2) surgical, and (3) profound. We feel that a good anesthetist will never allow the patient to get into the third stage. He should always remember that the third stage is the next step to death. Anesthesia must be a reversible reaction, regardless of what anesthetic is used. If the effect is carried beyond the third stage, it is not reversible and that means death, which is true in any type of anesthesia.

After 6½ years of operative experience in more than 10,437 cases of pentothal sodium oxygen anesthesia (most tonsillectomies excluded), we have had less anesthetic disturbance, least morbidity and lowest death rate than with any other anesthetic we have used. We have had only one death in which we felt that the anesthetic was a contributory factor. In the majority of cases the patient is partly or completely out from under the anesthesia within an hour or two after he has been taken back to his room, and frequently before he is off the operating table. We have had less than one per cent of these 10,437 cases who had to receive any respiratory or cardiac stimulation while on the operating table. We never use a combination of anesthetics. We always use straight oxygen and sodium pentothal. We have never had a case in which we were unable to produce anesthesia satisfactorily with this combination.

SUMMARY AND CONCLUSIONS

During the past six and one-half years, we have administered sodium pentothal anesthesia to 10,437 patients, ranging in age from 2 to 92 years. The operations are listed.

In an attempt to eliminate the only objection to the use of this anesthetic that could be detected—pallor with moderately slow and shallow breathing—continuous administration of straight oxygen was given during the operation. This improved the condition of the patient to the satisfaction of the surgeon and is considered one of the great-

est advances in the technique of administration of pentothal sodium anesthesia.

In order to facilitate the administration of the drug and to eliminate having to use two anesthetists, several types of apparatus have been devised. The Carraway apparatus—a modification of the Rudder—is described, with instructions for its use outlined. The thumb screw control makes it possible to administer any amount of solution in an accurate manner and the syringe can easily be refilled without being removed from the rack.

After having used every type of anesthetic thus far developed, we consider pentothal sodium oxygen anesthesia, properly administered, the ideal type. It gives the most satisfactory results, least anesthetic disturbance, least morbidity and lowest mortality of any anesthetic.

HYPERTENSION AS A UROLOGICAL PROBLEM

By

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Hypertension has ever been an intriguing yet fearful condition, depending particularly upon whether one is the investigator or the investigated. Many theories have been advanced and many lines of investigation followed prompted by the varying syndromes most prominent in the patient's history and examination.

Since the epochal work of Bright in Guys' Hospital, London, in the early part of the last century, medical attention has been focused on kidney pathology as a common cause of elevated blood pressure. We are indebted to Goldblatt and his co-workers for the recent wave of enthusiastic research in obstructive renal lesions.

We have all had many patients with abnormally and persistently elevated systolic and diastolic pressures who have been improved by the surgical correction of this obstruction to renal output. We have also had many other patients referred for etiological investigation, and have often been unable to definitely indict the urological tract as the cause of the hypertension. A recent report by Braasch from the Mayo Clinic cites more cases of hypertension without proven renal pathology than with it. As he has properly stated, "The essential factor apparently is an intrarenal vascular imbalance which permits the secretion of pressor substances." Perhaps further investigation in minute kidney pathology, whether anatomical or biochemical, may add more light on this interesting subject as demonstrated by the vasopressor substance (angiotonin) in the Page experiments.

The clinical records of a few recent patients at the Florence Clinic seem to corroborate Goldblatt's theory:

REPORT OF CASES

Case 1. Mrs. P. N. S., widow, age 51, was referred by Dr. T. L. Bennett, Sr. in September 1942 with a long history of medical and surgical illnesses. Her recent most annoying symptoms were frequency and urgency of urination, pyuria and hypertension. A complete urological work-up proved an advanced tuberculous infection of her right kidney and a relatively normal left kidney.



Fig. 1. Tuberculosis, right kidney, 5 minutes after intravenous diodrast.

After a complete examination by the various members of our own and the Seale Harris Clinic, we removed a frankly tuberculous right kidney and ureter. The patient's urinary symptoms subsided, along with a drop in her blood pressure from S 215/D 110 to S 130/D 90 which has now been sustained for over six months.

Case 2. W. C. K., male, age 52, was seen in consultation with Drs. Dunn and Walden in December 1942 because of hematuria and hyperten-



Fig. 2. Tuberculosis, right kidney, 65 minutes after intravenous diodrast.



Fig. 3. Right Calculus-pyonephrosis.

sion—S 170/D 112. Strangely enough he had no other urinary symptoms, and his painless hematuria had been of only a few days' duration. A flat K U B film revealed a large right kidney filled with calculi. Cystoscopy revealed the blood coming from the right kidney and that the relative function of this kidney was very poor. At operation we removed a tremendously enlarged right "kidney shell" almost completely blocked by one large and several hundred small stones. Postoperatively his blood pressure receded to S 125/D 90 and has remained in that region even though he has been back at his work for nearly three months now. Perhaps this is too early to be enthusiastic about the cure of his hypertension.

Case 3. Another very interesting patient in this same hypertensive obstructive category was presented by B. Mc. I., male, age 20, referred by Dr. Roberts. This boy had been taking large doses of sulfathiazole by having his prescription refilled without consulting his doctor. He suddenly developed complete anuria, distorted vision, headache and edema. His blood pressure registered S 195/D 115. He had albuminuric retinitis, marked edema of his face and extremities, and was very tender in his right loin. His blood chemistry revealed a sulfathiazole concentration of 4.6; urea nitrogen 26.5; hemoglobin 80%, red blood count 4,250,000, color index 0.95, white blood count 13,200, and polymorphonuclear leucocytes 85. An x-ray film of his urinary tract revealed a definitely opaque shadow filling his right kidney calices, pelvis and upper ureter. After forcing fluids by mouth, intravenously, and by colonic irrigations, we passed ureteral catheters to each kidney. After irrigation he began to secrete, and his condition improved so that we were able to release him from the hospital in ten days with his blood examination findings and his general condition rapidly improving.



Fig. 4. Sulfathiazole calculus in right kidney.



Fig. 5. Pyelogram of right. Sulfathiazole calculus.



Fig. 6. Intravenous diodrast—6 months after former two films.

Since release from the hospital six months ago, he has become married and passed his army examination. His present blood pressure is S 115/D 85, and intravenous urography reveals prompt and equal output on both sides without distortion. Even though this boy's sulfathiazole concentration was not high, his general condition was extremely alarming, and he is one of those patients we occasionally see who will not tolerate sulfathiazole very safely without very careful watching. When I learned that he had passed his local draft board examination, I sent a copy of his record and his x-ray films to the induction center as I felt that such a soldier would be a real bad risk, especially if he were to be stationed in an area of extreme cold or poor water supply, unless a longer period of recuperation were allowed as he occasionally yet runs some faint traces of albumin.

Case 4. Contrary to these three patients, Mrs. B. S., a four months' primipara, was seen in consultation with Dr. T. L. Bennett, Jr., because of a severe left renal colic. Even though this was her first clear-cut renal colic history, a flat film revealed several large left renal calculi. A complete urological examination proved comparatively equal function and no infection in either kidney. Her blood pressure was not influenced—S 115/D 85, and her urinary symptoms before and since the one attack of colic have been the usual ones of pregnancy. Since she is without infection, we have all agreed to watch her carefully and not attempt any surgery until after delivery unless forced to.

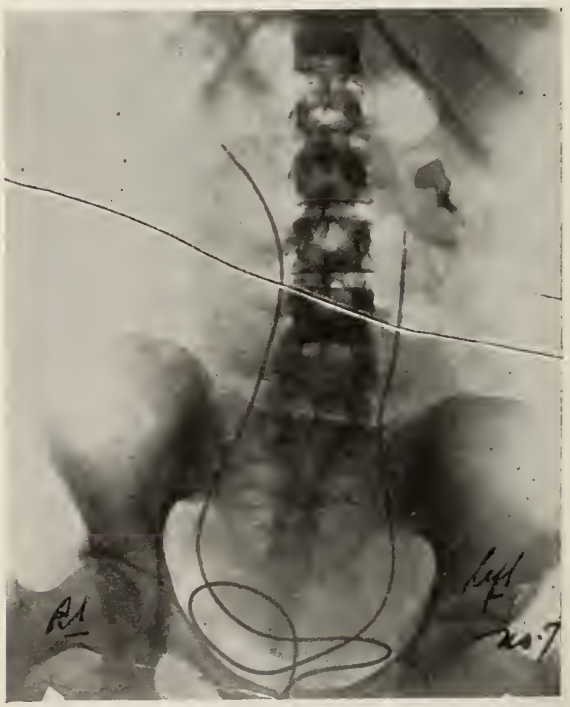


Fig. 7. Left renal calculi in four months primipara.

Case 5. Another patient, F. J., male, age 50, was seen in consultation with Dr. Simpson because of hypertension, albuminuria, and having passed calculi seventeen years ago. Urological examination revealed very slight present evidence of

gross renal pathology but definite early prostatic enlargement. We do, however, see advanced prostatic patients with low blood pressure as often as we do those with a definitely elevated pressure. This particular patient may prove to be a case of fairly early prostatism and male climacteric with hypertension, or he may later develop evidence of gross renal pathology. We intend to direct conservative treatment toward his prostate for a while at least.

Hence, we must keep an open mind in our investigations, and perhaps often find that paradoxically the present perhaps too common impression of the Goldblatt theory is only partly correct, and that each patient with hypertension might benefit from a thorough urological work-up, while investigating possible causes elsewhere in his body or the present mundane upheaval. Direful radio programs are, I feel, one serious cause of the disturbed equanimity of many patients.

SUMMARY

We are not always able to prove that obstructive urological pathology causes hypertension.

Chronic obstruction and infection are more often found to be the cause.

The blood pressure should be checked for many months before deciding that renal surgery has been a definite cure of hypertension.

The prognosis is better in younger patients and those whose renal pathology is of shorter duration. Chute expressed it well in "They do better before the cement is set."

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LUETAGIN SERUM STUDIES OF IMMUNOLOGIC REACTIONS IN NORMAL AND SYPHILITIC PATIENTS

A PRELIMINARY REPORT

By

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Use of skin tests for the diagnosis of syphilis in humans is a rather old procedure. Kolmer and Greenbaum,[1] in 1922, described the luetin reaction previously mentioned by Stokes (1916).[2] Using a pure luetin or vaccine of washed *Spirochaeta pallida*, Kolmer and Greenbaum found that this material, suspended in saline solution, produced indefinite reactions in syphilitic and in normal subjects. Alderson,[3] while studying the reactions produced by injections made from three separate commercial sources of luetin, found that these tests showed many defects. Smith and Gill[4] used luetin made by a commercial source according to the method of Noguchi. They concluded that the luetin test is not specific for syphilis and that the reaction was not a reliable procedure. Later, Kolmer and Tuft[5] prepared an organ-

The author wishes to make the following acknowledgments: Dr. Krueger supplied cases for some of this work in Appleton, Wis. The Wisconsin Psychiatric Institute completed the blood Wassermann tests. Prof. Oliver, Chairman of the Department of Dermatology and Syphilology, Northwestern University Medical School, placed the facilities of the dispensary at the author's disposal, and Dr. Bertha Shafer, of the dispensary, gave unlimited assistance to facilitate this work. Prof. Chester Farmer, Chairman of the Department of Chemistry, in the above University, gave his counsel to the project, which was greatly appreciated. Drs. E. Leon Foreman and C. O. Miller, of the Lakeside Laboratories, Inc., Milwaukee, rendered the author much service in processing the Luetagin according to his suggestions. Sister M. Venentia, the Director of the Laboratory in the St. Elizabeth Hospital, Appleton, Wis., helped in preparing the serum.

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ic luetin by extracting a mature syphiloma of a rabbit's testicle, which was produced by the injection into the testicle of a strain of *Spirochaeta pallida* of known virulence. With the use of this organic luetin, Templeton and Andrews[6] concluded that they could produce a definite positive reaction with this material in certain syphilitic persons. They found, also, that potassium iodide had no effect in causing falsely positive reactions in patients tested with organic luetin.

On the other hand, Ambler[7] found that "organic luetin, as it is prepared from syphilitic rabbit testicles, is not of sufficient diagnostic value to warrant its general use. There is even a certain danger of false positive reactions in non-syphilitic persons, as in the series from Lakeside Hospital in which the incidence was 1.9 per cent. Moreover, one occasionally has difficulty in interpreting the reactions or pseudoreactions. These two factors would be especially important if the test were to be generally employed in medical practice." In another paper, Barker[8] confirmed the findings of Ambler[7] as to the questionable value of the organic luetin test. Most of the sero-diagnostic work is based on Abderhalden's researches on various specific reagins or antibodies which have been produced by the various disease processes, according to Webster.[9]

The specificity of cutaneous reactions in syphilis began with the very first research by Jadassohn. Castellino[10] concluded that such reactions depended upon the material which was used, since such preparations may contain elements which might cause both a specific and a non-specific reaction. He concluded that the cutaneous reaction in syphilis is within certain limits, like the experimental inoculation, since it causes reactivity corresponding to the phase of the disease in syphilitics. His material was filtrated from syphilitic tissues of various types, such as the flat condyloma, heredoluetic liver, the exudate of human syphiloma and the syphiloma of rabbits.

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THEORY FOR THIS STUDY

Since the disease syphilis must produce some sort of a chemical reaction as its result, as proved by the fact that the blood Wassermann reaction has proven to be so specific in its diagnostic ability, it occurred to me to attempt the production of a skin-testing substance from the blood of either a definite case with active syphilis or from a so-called "Wassermann-fast" case, since either type of case must contain certain chemical substances which cause the Wassermann reaction to become positive in such conditions.

It appeared obvious that care would have to be taken, especially with blood from active cases. The processing of such blood would call for the utmost caution in the preparation of the reagin which would be produced for injection purposes in humans. Hence, I chose to use the blood from a "pedigreed" case, in that I knew that this person had been given very adequate specific therapy for a matter of years by myself. In spite of this treatment, her blood remained positive to the Wassermann test. So, obviously, her blood contained the specific reagin which I would need for the proposed intracutaneous studies which I proposed to follow. It has been shown that the blood serum contains such antibodies which are produced by disease. Therefore, I reasoned that the serum should be obtained, processed to insure the killing of any *Spirochaeta pallida* which, per chance, might still be present.

Rather than attempt the production of a luetin from syphilitics, I proposed to obtain the active substance or substances from the blood which this specific disease has produced, which could be classified as a reagin when introduced intracutaneously in humans.

METHOD OF PROCESSING

The "pedigreed" case, who had shown a persistent positive blood reaction to the Wassermann test, even after years of intensive specific therapy, was employed as the source for the testing material (Luetagin). Since she also had a marked hypertension, it

was thought advisable to subject her to a venesection for relief of the high blood pressure. Consequently, she was hospitalized, a blood and spinal fluid Wassermann test was taken, and then, under local anesthesia, a transfusion needle was inserted into the antecubital vein and approximately one-half a liter of whole blood was withdrawn and sodium citrate was added to prevent clotting. The entire procedure was completed under strict aseptic procedures, and this whole blood was taken to the hospital laboratory and centrifuged at 2000 r/1 min. The blood serum was then collected in sterile, rubber-capped vials. These were immediately forwarded to the Lakeside Laboratories, Inc., of Milwaukee, Wisconsin. By previous agreement, this pharmaceutical firm had consented to process my material in the following manner: Under aseptic technique, the blood serum was passed through a Berkefeld filter. Phenol 0.5% was added as a preservative and the material was placed in five cubic centimeter rubber-capped vials and then stored in a refrigerator. Later, the samples of the processed Luetagin were tested for bacterial growth to ascertain its sterility. This was also checked by making cultures on thioglycollic media. A darkfield examination was made for possible living spirochaetes and other organisms, but none were noted.

A question arose as to the possibility of a filterable form of syphilis. If this were true, measures would have to be taken to kill such ultra-microscopic forms. Since the material contained phenol and was stored for six weeks before it was employed, I felt sure that this process (with phenol) would kill such organisms, since the use of phenol is one of the methods of rendering the virus of rabies impotent in the preparation of its toxin.

In response to my request for additional safeguards which should be taken in the preparation of the Luetagin, Professor Paul F. Clark of the Department of Medical Bacteriology at the University of Wisconsin suggested the use of a heating process, since antibodies withstand 56° C. Only the complement is destroyed at that temperature. Since spirochaetes are very susceptible to heat, he suggested 42° C. for one hour or 50° C. for two hours, which, of course, would give several multiples of safety.

The Luetagin was then subjected to 50° C. for a period of two hours, and extreme care was taken to hold the temperature at that level for the two hours. The vials, containing the Luetagin, were placed in a glass beaker with water, and the temperature was controlled constantly by a thermometer (dairy type) for two hours. Intradermal tests, made upon myself both before and after the heating treatment, showed no perceptible change in the ability of this material to produce the zone of hyperemia, within a few minutes, which is the *normal* reaction in humans with a negative blood Wassermann test when this Luetagin is injected intradermally in the forearm areas.

The above procedures constitute the final measures which were used to prepare the Luetagin. Many unsuccessful attempts were made to obtain this reagin in other patients and by various other methods, all which resulted in complete failures.

Control injections of normal saline solution, with 0.5% phenol were given intracutaneously in each case and in the left forearm to avoid any confusion as to the results of these tests. The right forearms of patients received intracutaneous Luetagin. The amount of both materials injected in all tests was 0.1 cc.

READING OF THE POSITIVE TESTS

To make the results as accurate as possible, the degree of hyperemia at the sites of the injections were graded as one plus, hardly noticeable; two plus, present; three plus, marked; and four plus, markedly hyperemic with very large red halo.

DISCUSSION OF DATA

It is obvious that the findings are limited by the small amount of data which has been collected to date. The author wishes to apologize for not being able to add more findings at this time, but since this research was completed through the author's financial aid, this has become rather limited, as has the time which he has been able to give to this work, since this research has been accomplished in his spare time when he was not attending to his private practice.

EXPERIMENTAL RESULTS, GROUP A—NON-SYPHILITICS

Patient	Disease	Date, Blood Wassermann	Reaction	Date, Luetagin Test	Reaction	Date Control	Reaction
W. M.	Allergic Rhinitis	10-8-42	Negative	10-8-42	4+ in 2 minutes	10-8-42	Negative
A. V. P.	Bronchial Asthma	10-10-42	Negative	10-10-42	3+ in 1 minute	10-10-42	Negative
J. K.	Normal	10-11-42	Negative	10-11-42	4+ in 2 minutes	10-11-42	Negative
H. V.	Acne	10-12-42	Negative	10-12-42	4+ in 1 minute	10-12-42	Negative
L. S.	Cholecystitis	10-14-42	Negative	10-14-42	+ in 2 minutes 4+ in 10 minutes	10-14-42	Negative
M. S.	Acne Rosacea	10-14-42	Negative	10-14-42	+ in 1 minute 4+ in 5 minutes	10-14-42	Negative
M. H.	Normal	10-24-42	Negative	10-24-42	+ in ¾ minute 3+ in 2 minutes 4+ in 3 minutes	10-24-42	Negative
C. B.	Neurosis	10-26-42	Negative	10-26-42	+ in 4 minutes 3+ in 11 minutes	10-26-42	Negative
A. R.	High Blood Pressure	10-28-42	Negative	10-28-42	4+ in 2 minutes	10-28-42	In 2 min.
H. R.	Keloids	10-29-42	Negative	10-29-42	+ in 1¼ min. 3+ in 2 minutes	10-29-42	Negative
A. D. B.	G.C. history normal	11-2-42	Negative	11-2-42	+ in 1 minute	11-2-42	Negative
B. S.	Mastitis	11-3-42	Negative	11-3-42	4+ in 2 minutes	11-3-42	In 5 min.
B. K.	Paroxysmal Tachycardia	10-8-42	Negative	10-8-42	+ in 1¼ min. 4+ in 6 minutes	11-4-42	Negative
R. G.	Pernicious Anemia	11-5-42	Negative	11-5-42	+ in 1¾ min. 2+ in 7 minutes	11-5-42	Negative
G. J.	Atopic Dermatitis	11-5-42	Negative	11-5-42	+ in 2 minutes + in 3 minutes	11-5-42	Negative
M. A.	Acne	11-9-42	Negative	11-9-42	+ in 2 minutes 4+ in 5 minutes	11-9-42	Negative
J. F.	Thrombo-Angiitis Obliterans	11-10-42	Negative	11-10-42	+ in 2½ min. 2+ in 3½ min. 3+ in 5 minutes	11-10-42	Negative
J. J.	Normal	10-28-42	Negative	10-28-42	+ in 4 minutes 3+ in 6 minutes	10-28-42	Negative
E. K.	Secondary Anemia	11-11-42	Negative	11-11-42	2+ in 2 minutes	11-11-42	2 in 1 min.
L. W.	Acne	11-13-42	Negative	11-13-42	+ in 1¼ min. 4+ in 4 minutes	11-13-42	In 1 minute
J. A.	Normal	11-1-42	Negative	11-13-42	+ in 3½ min. 2+ in 5 minutes	11-13-42	In 1 minute
M. S.	Normal	11-1-42	Negative	11-13-42	+ in 3½ min.	11-13-42	Negative
P. A.	Normal	11-1-42	Negative	11-13-42	+ in 2 minutes	11-13-42	Negative
M. D.	Id Eruption Trichophyton Infection of Feet	11-29-42	Negative	11-29-42	2+ in 3 minutes	11-29-42	3 for 5 min.

TABLE 1

	Normals Group A	%	Syphilitics Group B	%
Number of cases	24	100	16	100
Blood positive	0	0	12	75
Blood doubtful negative	0	0	1	6
Blood negative	24	100	3	19
Control negative	18	75	15	94
Control positive	6	25	1	6
Luetagin positive (without the positive control tests)	18	100	10	67
Luetagin negative (without the positive control tests)	0	0	5	33

As has been mentioned, the author wished to investigate the possibility of an antibody or a chemical substance which may have been produced during the course of the disease. Hence, by using the blood serum taken from a so-called Wassermann-fast case, which might contain such a product of the syphilitic process, the author tested both normal and syphilitic humans. (See Table 1.)

Reviewing these results, it is apparent that 25% of the controls were positive. In other words, it means that of the normal patients tested, one-fourth reacted to the control material, which produced positive intracutaneous tests, perhaps mainly from its phenol content. The B Group had one positive control test.

Two important items of interest can be deduced from these findings. Quite a high percentage of cases are sensitive to phenol (in ½% dilution), and this material should not be used, because of this irritative factor, in solutions which are to be employed in skin-sensitivity tests.

If these positive control tests are subtracted from those who did not show positive controls, the number of normal patients who react to Luetagin is 100%. The number of patients, who are being treated for syphilis, and who *do not* react to Luetagin is 33%, when the positive control tests have been subtracted.

EXPERIMENTAL RESULTS, GROUP B—SYPHILITIC PATIENTS (TREATED)

Patient	Type of Syphilis	Date, Blood Wassermann	Reaction	Date, Luetagin Test	Reaction	Date Control	Reaction
T. B.	Wassermann-fast donor of material for Luetagin (latent)	10-9-42	2	10-9-42	No hyperemia observed for one hour	10-9-42	Negative
M. M.	Meningo-vascular asymptomatic for one year. No neurologic findings at present. (latent)	10-9-42	Negative	10-9-42	4+ in 2 minutes	10-9-42	Negative
W. K.	Wassermann-fast for many years. No signs of vascular syphilis. (latent)	10-10-42	3	10-10-42	+ in ½ hour	10-10-42	Negative
Mrs. E.	Gumma, forehead	10-12-42	2	10-12-42	+ after 20 min.	10-12-42	Negative
Mrs. F.	Gumma, forehead	10-14-42	3	10-14-42	+ in 18 minutes preceded by blanching around injection area for first 5 min.	10-14-42	Negative
J. E.	Wassermann-fast 4 years. (latent)	11-3-42	Doubtful negative	11-3-42	+ in 7 minutes + in 12 min.	11-3-42	Negative
M. M. Z.	Pruritis with history of syphilis with treatment. (latent)	11-2-42		11-5-42	+ in 2 minutes 4+ in 4 minutes	11-5-42	2
J. D.	Rheumatoid arthritis and Klein test discovered (latent)	11-6-42	W. P. I. negative, Kahn negative, Klein +	11-6-42	Negative in 25 minutes	11-6-42	Negative
J. L.	Paresis	10-30-42	2	10-30-42	Negative 30 minutes	10-30-42	Negative
B. F.	Syphilis asymptomatic (latent)	11-1-42	Negative	11-1-42	+ in 18 minutes	11-1-42	Negative
M. M.	Syphilis (latent)	11-6-42	3	11-6-42	+ in 15 min.	11-6-42	Negative
M. Zu.	Neurosyphilis 6 years	11-13-42	2	11-13-42	+ in 9 min.	11-13-42	Negative
J. S.	Late latent syphilis	11-1-42	3	11-13-42	Negative in 30 min.	11-13-42	Negative
E. N.	Late latent syphilis	11-2-42		11-13-42	Negative in 30 min.	11-13-42	Negative
G. L.	Central nervous system lues	11-2-42 11-13-42	2	11-13-42	3+ in 4 min.	11-13-42	Negative
D. A. M.	Latent syphilis	11-19-42	3	11-19-42	3+ in 2½ min.	11-19-42	Negative

This aspect seems to be of some importance, for it shows that normal persons (without syphilis) do not have a means of combating the injected material which had been produced by syphilis. All the normal patients, who were not sensitive to phenol, reacted to Luetagin. But, on the contrary, two-thirds of the luetic cases reacted to Luetagin, while one-third of these, by means of their inmunologic mechanisms, had produced enough protective material so that they were not affected by the serologic products of syphilis.

Perhaps later studies will be able to produce a more specific antigen than we have been able to prepare to date. If this can be worked out satisfactorily, more cases can be classified in such a manner as we have attempted through this study.

In Table 2 the largest percentage of patients who reacted negatively to Luetagin are latent (late). But many of these cases, which finally became positive, were negative after the injections had been made for eighteen to twenty minutes. It seems that this might indicate that these luetics had a partial immunity to the Luetagin, but that, as time elapsed, more blood was brought to the site of injection by the circulation, and, finally, the site became slightly hyperemic or positive because that skin area did not have enough protective substance to keep it immunized to the injected reagin.

TABLE 2
TYPES OF CASES OF GROUP B WHICH SHOWED POSITIVE LUETAGIN TESTS

Type of Case	Negative Luetagin Reactions	Positive Luetagin Reactions
C. N. S.	8%	12½%
Latent	25%	42 %
Tertiary	0%	12½%

TABLE 3
GROUP A. NORMAL CASES AND PERCENTAGES
(a) WITH NEGATIVE CONTROL

	Blood Reactions					
	Negative	Doubtful Positive	+	++	+++	++++
Luetagin Positive	18 75%	0 0%	0 0%	0 0%	0 0%	0 0%
Luetagin Negative	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%

(b) WITH POSITIVE CONTROL

	Blood Reactions					
	Negative	Doubtful Positive	±	+	++	+++
Luetagin Positive	6 25%	0 0%	0 0%	0 0%	0 0%	0 0%
Luetagin Negative	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%

TABLE 4

GROUP B. TREATED CASES OF SYPHILIS

(a) WITH NEGATIVE CONTROL:

	Blood Reactions					
	Negative	Doubtful Negative	±	+	++	+++
Luetagin Positive	2 12.5%	1	0 0%	2 12.5%	4 25%	0 0%
Luetagin (Klein +) Negative	1 6%	0 0%	1 6%	3 18%	1 6%	0 0%

(b) WITH POSITIVE CONTROL:

	Blood Reactions					
	Negative	Doubtful Negative	±	+	++	+++
Luetagin Positive	0 0%	0 0%	1 6%	0 0%	0 0%	0 0%
Luetagin Negative	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%

TABLE 5

GROUP A. NORMAL CASES (ALL PERCENTAGES COMPUTED ON 24 CASES)

(a) WITH NEGATIVE CONTROL:

	Maximum Luetagin Reactions				
	Negative	±	+	++	+++
Blood positive	0 0%	0 0%	0 0%	0 0%	0 0%
Blood doubtful negative	0 0%	0 0%	0 0%	0 0%	0 0%
Blood negative	0 0%	2 8%	1 4%	5 21%	8 33%

(b) WITH POSITIVE CONTROL:

	Maximum Luetagin Reactions				
	Negative	±	+	++	+++
Blood positive	0 0%	0 0%	0 0%	0 0%	0 0%
Blood doubtful negative	0 0%	0 0%	0 0%	0 0%	0 0%
Blood negative	0 0%	0 0%	3 13.5%	0 0%	3 12.5%

TABLE 6

GROUP B. CASES OF SYPHILIS-TREATED (ALL PERCENTAGES COMPUTED ON 16 CASES)

(a) WITH NEGATIVE CONTROL

	Maximum Luetagin Reactions				
	Negative	±	+	++	+++
Blood positive	4 25%	5 31%	0 0%	2 12½%	1 8%
Blood doubtful negative	0 0%	1 8%	0 0%	0 0%	0 0%
Blood negative	2 12½% (Klein positive)	1 8%	0 0%	0 0%	1 8%

(b) WITH POSITIVE CONTROL:

	Maximum Luetagin Reactions				
	Negative	±	+	++	+++
Blood positive	0 0%	0 0%	0 0%	0 0%	1 8%
Blood doubtful negative	0 0%	0 0%	0 0%	0 0%	0 0%
Blood negative	0 0%	0 0%	0 0%	0 0%	0 0%

TABLE 7

GROUP A. NORMAL CASES AND PERCENTAGES

(a) WITH NEGATIVE CONTROL :

	Time Element of Positive Luetagin Reactions		
	Within 5 min.	Within 12 min.	Within 30 min.
Blood positive	0 0%	0 0%	0 0%
Blood negative	18 67%	18 67%	18 67%

(b) WITH POSITIVE CONTROL:

Time Element of Positive Luetagin Reactions

	Within 5 min.	Within 12 min.	Within 30 min.
Blood positive	0	0	0
	0%	0%	0%
Blood negative	6	6	6
	33%	33%	33%

TABLE 8

GROUP B. CASES OF SYPHILIS-TREATED

(a) WITH NEGATIVE CONTROL:

Time Element of Positive Luetagin Reactions

	Within 5 min.	Within 12 min.	Within 30 min.	Negative
Blood positive	3	1	4	4
	16%	6%	25%	25%
Blood negative	1	0	2 one was Klein positive	0
	6%	0%	12.5%	0%
Blood doubtful negative	0	1	0	0
	0%	6%	0%	0%

(b) WITH POSITIVE CONTROL:

Time Element of Positive Luetagin Reactions

	Within 5 min.	Within 12 min.	Within 30 min.	Negative
Blood positive	1	0	0	0
	6%	0%	0%	0%
Blood negative	0	0	0	0
	0%	0%	0%	0%
Blood doubtful negative	0	0	0	0
	0%	0%	0%	0%

SUMMARY OF EXPERIMENTAL RESULTS

1. A serum, termed Luetagin, was prepared from a so-called Wassermann-fast case of syphilis who was under intensive therapy by the author for a number of years. This material was processed in a manner to render it safe for injection.

2. The test material, Luetagin, with ½% phenol as a preservative, was given intracutaneously into the right forearms of both normal and syphilitic patients.

3. A control test, consisting of physiologic saline solution and ½% phenol, was injected intracutaneously into the left forearms of normal and syphilitic patients. Blood Wassermann tests were taken with these tests.

4. There were 24 cases in the A Group (normals) who exhibited negative blood Wassermann tests. The B Group, of treated syphilitics, was composed of 16 patients.

5. The normal reaction to Luetagin which was observed in 100% of the A Group, consisted of a hyperemic area surrounding the site of injection. This was present in 2/3rds of the B Group.

6. It appears that certain treated cases of syphilis have the serologic power not to react to the Luetagin (33% of cases in Group B).

7. Of the normal (A) group, 25% were positive to the control material which contained ½% phenol. From this, I take it that that material should be replaced by a more hypoallergenic material in this and other intradermal tests, such as the tuberculin test.

8. An immunizing process seems to be present in some luetic cases, for over 60% of the syphilitic cases showed a negative or a delayed reaction to Luetagin, while 22% showed a reaction within five minutes, and 12% exhibited a reaction within twelve minutes (see Table 8). Compared to this, the normal (A) Group showed a 100% reaction to Luetagin within five minutes.

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The Heart That Grows Old—Drugs in the treatment of the aging heart are of some importance but not of maximum importance. The treatment is physical rather than medicinal. There is very little rhyme or reason in giving digitalis in the small doses which are so frequently administered on the basis of the drug being a heart tonic. I do believe that in the older person who develops pneumonia or has an upper respiratory tract infection which may develop into pneumonia, it is an excellent idea to start digitalis promptly. In the older person who may have signs of hyperthyroidism, digitalis is of great value. In this older person auricular fibrillation sooner or later is going to develop. Quinidine is very helpful in controlling ectopics. For the hypertensive individual, sedatives are certainly of very distinct aid in controlling the nervous symptoms associated with this disorder. Anginal pain that cannot be controlled by simply resting demands nitroglycerine to control the symptom. It is a moot question whether or not the xanthine derivatives, aminophyllin, theobromine and theocalcin, which have a dilatory effect on the coronary vessels, should or should not be given continuously to the old person who shows evidence of coronary disease. One last word and that of caution, morphine should be avoided if possible in the acute coronary attack. This drug sensitizes the vagus and increases coronary constriction. It should be replaced with papaverine 0.032 to 0.065 gram if the pain is not too severe, and morphine should always be combined with atropine to counteract the effect of the former drug on the vagus nerve.—*Musser, Texas State J. Med., April '43.*

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THE ASSOCIATION'S NEW PRESIDENT

Thirty-four years after the late Dr. Wooten Moore Wilkerson, prominent Montgomery physician, was elected president of the Medical Association of the State of Alabama in 1909 that same honor was conferred by his fellow-physicians of a later generation upon his son, Dr. Fred Wooten Wilkerson. The younger Dr. Wilkerson's election occurred at the closing session of the Association's annual meeting in Birmingham April 20-22.

The most recent recipient of the highest honor that can be bestowed upon an Alabama physician by his State's organized medical profession has also received numerous other honors from it and from fellow-physicians in other states. He is a Fellow of the American Medical Association and of the American College of Physicians, a member of the Board of Trustees of the Alabama Insane Hospitals, a Diplomate of the American Board of Internal Medicine and, for fourteen years prior to his election as president of the Medical Association of the State of Alabama, a member of the State Board of Censors. He has been Governor for the State of Alabama of the American College of Physicians since 1930.

Dr. Wilkerson received his medical training at the College of Physicians and Surgeons of Columbia University, from which he was graduated in 1909, the year his father was elected to the office he now holds. During the many years he has practiced as a specialist in internal medicine he has earned a reputation in medical and non-medical circles extending far beyond the borders of his own State. He is married and the father of two children.

Had the war not intervened, medical history would repeat itself after more than a third of a century and Mobile, the scene of the 1910 meeting at which the elder Dr. Wilkerson presided, would also be the scene of the 1944 meeting, to be presided over by the younger Dr. Wilkerson. In accordance with the time-honored custom of meeting every third year in Montgomery, Birmingham and Mobile, the next meeting would be held in Mobile. However, because of the war-created shortage of hotel accommodations in that city and other unfavorable conditions due to the world conflict, it was decided to hold the 1944 meeting in Dr. Wilkerson's home city of Montgomery.

SULFONAMIDE COMPOUNDS IN THE TREATMENT OF WOUNDS

"The introduction of the use of sulfonamide compounds as prophylactic and curative agents in the field of surgery has not been an unmitigated blessing for surgeons because of a growing tendency to neglect fundamental principles of good surgical judgment and technic and to rely instead on the wholesale use of the 'wonder drugs.' This undesirable condition has been brought about by a false impression that the sulfonamide compounds are 'cure-alls' and represents a current trend toward an ignorant complacency in respect to the elective and selective uses of these agents." The above is the opening paragraph of the paper by Long[1] which was read before the Section on Orthopedic Surgery at the 1942 session of the American Medical Association. And the Baltimore investigator goes on to tell us that "one must remember (and too often in the present this fact is being forgotten) that the use of sulfonamide compounds is an adjunct to surgical therapy and cannot replace it. However, these drugs can be valuable aids

1. Long, Perrin H.: Sulfonamide Compounds in the Prevention and Treatment of Wound Infection, J. A. M. A. 121: 303 (Jan. 30) 1943.



FRED WOOTEN WILKERSON
President of the Association
1943-1944

when properly employed and have permitted the development of certain advances in surgical practices which were considered unattainable before the advent of sulfanilamide and its derivatives." And we are told that "it has been established that the sulfonamides can be used in the treatment of wounds regardless of the type of surgical procedure that has been employed. As far as is known at the present time, the administration of these drugs is compatible with the use of standard intravenous, inhalant or local anesthetics, and they will not influence adversely either the course of the treatment of traumatic or infectious shock."

"The condition of the wound at the time sulfonamide therapy is used is of importance. Obviously a poorly debrided, carelessly drained fresh wound is an unsuitable site for the implantation of the sulfonamides, and under such conditions the drugs may eventually fail to exert their prophylactic effect."

Long deplores the "tendency at the present time to dump sulfonamide compounds haphazardly into wounds. This is a bad practice, and it should be emphasized that the implantation of sulfanilamide should be done carefully in order that all parts of the surface of the exposed wound will be in contact with the drug. A shaker-top container makes this easy, although many physicians prefer to use a powder atomizer for applying sulfanilamide locally."

And in his conclusion the author says in part, "On the basis of present evidence, it would seem that a combination of systemic with local therapy offers the best chance for the prevention of wound infection and for its cure once an infection has become established. On the basis of current evidence, sulfadiazine by mouth seems to be the drug of choice for systemic therapy. . . . From all points of view, sulfanilamide seems at the present time to be the drug of choice for topical application. . . . Care should always be taken to prevent the caking of sulfanilamide in the wound, and this can be accomplished by applying moist gauze dressings following the application of sulfanilamide to the wound. In the absence of clinical infection, there is little reason to continue oral therapy with sulfadiazine for more than five to seven days. However, to prevent secondary infections from occurring after primary prophylaxis has been successful, it is necessary to apply sulfanilamide powder locally until wound healing is complete."

The Johns Hopkins observer has been investigating the sulfonamides from the beginning and his contributions are authoritative and well done. We are continuing to learn much about these drugs and it is largely by means of studies such as those of Long that progress is being made.

REGARDING WAR-TIME VENEREAL DISEASE CONTROL

To the Physicians of Alabama

At a recent conference in Montgomery on War-Time Venereal Disease Control, with representatives from the various branches of the armed forces and interested health officers in attendance, certain recommendations relative to the physicians and pharmacists of the State were adopted as follows:

It is recommended that the physicians and pharmacists of the State be advised, through the presidents of their respective societies, of (1) the dangers encountered in the administration of the sulfonamide drugs to the flying personnel of the Army and Navy; (2) of the danger of and the laws against "drug-store" diagnosis and treatment; and (3) of the legal requirements of physicians to report to the health department all new cases of venereal disease and those cases that lapse treatment.

The administration of sulfonamide drugs to the flying personnel of the air forces is extremely dangerous since all fliers must be grounded while the drug is being taken and for at least six days thereafter. It has been indicated by the medical department of the air forces that it feels that many airplane accidents have been due to the effects of the sulfonamides. Hence, it might be good practice for all physicians in Alabama to refuse to prescribe any sulfonamide drug to any member of the air forces unless the proper medical authorities of the air forces have been notified.

The dangers of and the laws against "drug-store" diagnosis and treatment have been called to the attention of the Alabama Pharmaceutical Association.

Since reporting of new cases of venereal diseases and those cases that lapse treatment is required by law, pertinent sections of the code of Alabama are being called to your attention. They are as follows:

Tit. 22. Sec. 262—Any physician who makes a diagnosis or treats a case of syphilis, gonorrhea, chancroid, lymphogranuloma inguinale or granuloma venereum, and the superintendent or manager of a hospital or dispensary or penal or other institution in which there is a case of venereal disease, shall report such a case immediately in writing to the county health officer, stating the patient's name, or initials, the age, color, sex, marital status, address, the stage

of the disease and occupation of such diseased person, the date, as near as it can be arrived at, of the onset of the disease and the probable source of infection, and the report shall be enclosed in a sealed envelope and sent to the county health officer.

Tit. 22. Sec. 267—The physician treating any person infected with a venereal disease shall make and keep an accurate record of each and every time such a person so diseased is seen for the purpose of consultation or treatment, and each and every person so seen shall be instructed by the physician as to the day, or date on which said person so diseased shall be expected to be next seen for the purpose of consultation or treatment, and if, after five days from the day or date so specified, the person so instructed has not returned to or been seen by the physician responsible for the treatment, said physician shall immediately report to the county health officer the name and address of such venereally diseased person.

1943 MEETING OF THE SOUTHERN MEDICAL ASSOCIATION

Various rumors have been current as to whether the Association will hold its annual convention in 1943. At the Richmond meeting the Council voted that unless conditions not then evident should occur, the Association would convene at the usual time in 1943, the Executive Committee to select the place in the spring.

It now seems to the officers of the Association, who have expressed themselves informally, that there are many reasons why the physicians of the South should meet. Chief of these is the fact that medical men everywhere must keep their knowledge fluid. Advances are numerous and arresting and in spite of the war there has been no abatement in new scientific work. Official recognition of the need of continued technical progress is furnished by, among others, President Roosevelt's spokesman and intimate, Harry Hopkins. Hopkins, though he would abolish English literature courses and Chaucer from the American educational system for the duration, prophesies continuation and intensification of scientific education of all kinds. Stephen McDonough, Science Writer for the Associated Press, who covered Southern Medical meetings for a number of years before he entered the Army, quotes the Director of Scientific Research and Development in Washington as saying, "Medical meetings? By all means they should be continued with even greater emphasis than before. We must preserve and disseminate advances in medical knowledge as never before."

The geographical limitations of the Southern Medical Association grant a variety of scientific viewpoints among its members with a minimum of distance to be covered to reach a central meeting city. The South has furnished a larger quota of physicians for the armed forces than have other parts of the country. This bespeaks a more active and youthful profession. It is particularly important that members left practicing keep in close contact with one another for discussion of changing methods. It is important that occasional relief from the terrific grind of heavy practice be obtained by a brief complete change of environment.

Detailed plans for the 1943 meeting will probably be formulated in the next few weeks.—*From the April 1943 Southern Medical Journal.*

INVALID DIETS AND FOOD RATIONING

Of interest to all who are concerned with diets for invalids is Ration Order 13, issued by the Office of Price Administration under date of February 9, 1943. This order covers all canned, dried, and frozen fruits and vegetables. Article II, Section 2.5 of the order reads as follows:

"Consumers who need more processed foods because of illness may apply for more points. (a) Any consumer whose health requires that he have more processed foods than he can get with War Ration Book Two may apply for additional points. The application must be made on OPA Form R-315, by the consumer himself or by someone acting for him, and may be made in person or by mail. The application can be made only to the board for the place where the consumer lives. He must submit with his application a written statement of a licensed or registered physician or surgeon, showing why he must have more processed foods, the amounts and types he needs during the next two months, and why he cannot use unrationed foods instead.

(b) If the board finds that his health depends upon his getting more processed foods, and that he cannot use or cannot get unrationed foods, it shall issue to him one or more certificates for the number of points necessary to get the additional processed foods he needs during the next two months."

The application form referred to above, OPA Form R-315, is apt to be somewhat confusing to patients. It is titled "Sugar Special Purpose Application" and was developed primarily to meet the need for home canning. It is being used temporarily, until a more adequate form can be gotten out.

It is anticipated that the procedure indicated in Section 2.5 above may be changed somewhat in the future, in which case due notice will be provided.

MEDICINE AND THE WAR

SELECTIVE SERVICE SYSTEM

GUIDE TO PHYSICAL EXAMINATION OF REGISTRANTS

Medical Circular No. 3

March 1, 1943

The purpose of this circular is to guide physicians and dentists in the preliminary physical examination of registrants to the end that all selectees will be physically examined and processed locally in like manner. The following pages furnish the reasons for the adoption of the present system of examination by Selective Service, the instructions covering the preliminary physical examination, section 623.33 (revised) of the regulations, and revised List of Defects (DSS Form 220). It is hoped that each examining physician and dentist will study carefully his personal copy of the circular—familiarize himself thoroughly with the details of the examination, as well as with the lists, and then adhere rigidly to the regulations. The objective is to disqualify all registrants locally who have manifestly disqualifying defects and forward all qualified registrants to the examining and induction station.

This Medical Circular No. 3 affords the welcomed opportunity to express to the examining physicians and dentists of the Selective Service System the appreciation of this headquarters for their loyal and valuable professional service which has proved of the utmost importance in helping the nation to meet its wartime needs.

Lewis B. Hershey, Director.

National Headquarters
Selective Service System
Washington, D. C.
Feb. 15, 1943

Medical Circular No. 3

Preliminary Physical Examination

The purpose of the Selective Service physical examination of registrants is to dispose of locally and classify into IV-F all registrants manifestly unfit for military service, thereby saving the time of such unfit registrants, the expense incident to travel and the time of the physicians and dentists at the joint induction stations.

The character of the Selective Service physical examination was changed from a complete medical examination to a preliminary physical examination because of the great increase in manpower needed by the armed forces, because of accruing shortage of physicians, and because final authority for physical examination is vested with the armed forces. Now additional demands are being placed on local boards and examining physicians through the discontinuance of recruitment. Executive Order No. 9279, dated Dec. 5, 1942, and LBM No. 178 route through Selective Service channels all men between 18 and 38 years of age who enter the armed forces.

It seems timely to call attention to the present regulations dealing with the character of the examination and to the occasional mistakes on the part of the local board examining physicians which have been due largely to failure to adhere strictly to the regulations. In some instances registrants have been forwarded to recruiting and induction stations with only one leg, with a draining urinary fistula or with deformities of advanced Pott's disease.

Several of these cases were photographed and the pictures forwarded to the War Department constituting incontrovertible evidence that Selective Service Regulations were not followed in these instances and that the registrants had not been examined in the nude and in action. The preliminary physical examination will not be effective unless the registrant is examined in the nude (stripped of all clothing), as prescribed, and unless the regulations which apply to the physical examination are rigidly followed (sec. 623.33).

Inspection of the oral cavity is still an integral part of the physical examination. Its purpose is to disclose dento-oral defects which would manifestly disqualify a registrant for military or naval service, as specified in DSS Form 220. As a matter of clinical and statistical interest as to whether or not the registrant is acceptable, the examining physician or dentist should record any unusual anomalies or any pathologic lesions observed during the examination.

The preliminary physical examination as outlined in the Selective Service Regulations should be given only by a physician. Unfortunately, some have erroneously contended that, because it consists solely of inspection, this examination may be given just as effectively by a lay member of the local board and that it does not call for the professional judgment of a physician. This attitude, no doubt, is partially responsible for the mistakes that have been committed. However, it should be obvious that only a physician is capable of understanding the medical terminology involved in DSS Form 220; that only a physician can supply the professional judgment called for in DSS Form 220; and that only a physician, through a careful and rigid inspection, is capable of determining the existence of many of the physical defects, deficiencies, disorders and diseases listed in DSS Form 220.

The very adoption of this preliminary physical examination reflects the great confidence of Selective Service in its examining physicians. Enthusiastic acceptance by the examining physicians is essential to the success of this program—enthusiasm as is reflected in the following excerpt from a letter of one of our Selective Service examining physicians, who writes the following:

"Many of the examining physicians who are members of my Board of Examining Physicians

. . . and who have in their practice of modern, streamlined medicine allowed the 'inspection' phase of physical examination to be supplanted by the x-ray and other laboratory diagnostic measures, are beginnig to develop their skill of diagnosing defects . . . by an ever improving inspection ability. My examining physicians, participating in this present screening type of physical examination, have become enthusiastic in playing the game of 'spotting' pathology. Examining physicians who are really interested in this type of examination owe a debt for the privilege of participating in this refresher course which is making them more alert and is developing their senses of sight, hearing and touch in the detection of physical defects."

To meet the present needs, Selective Service has revised the regulations pertaining to this preliminary physical examination and the List of Defects. In addition, Selective Service has listed in DSS Form 220 those defects, deficiencies, disorders and diseases which, though not manifest in character, do nevertheless disqualify registrants, if properly certified by affidavit filed as prescribed in section 623.33 of the Selective Service Regulations. However, the character of the physical examination remains unchanged.

The three requisites to complete success of this preliminary physical examination are:

1. Enthusiastic acceptance of the program.
2. Thorough familiarity with the revised regulations, section 623.33, and with the revised List of Defects (DSS form 220).
3. Strict adherence to the regulations.

Section 623.33—Selective Service Regulations

Physical examination by examining physician. —(*a*) The director of Selective Service, from time to time, will issue a list of defects (form 220), which will set forth defects which manifestly disqualify the registrant for military service.

(*b*) A registrant shall personally appear before the examining physician and shall be examined in the manner provided in paragraph c of this section except when the examining physician or the local board is convinced that the appearance of the registrant for physical examination before the examining physician will be injurious to the registrant's health or the health of those who might be brought in contact with him. When the registrant appears before the examining physician, his physical examination should be held in a well lighted, well heated place. It should be held while the registrant is in the nude.

(c) The physical examination should consist of observing the registrant while walking toward, standing before and walking away from the examining physician. The registrant may be required to go through calisthenics to determine the mobility of joints or to furnish a basis for determination of his alertness, intelligence, understanding of commands, postural tensions, tendencies to incoordination and tremors. If peculiarities are noted, simple questions should be asked in an effort to bring out replies bearing on the mental health and personality characteristics of the registrant. The examining dentist or, if he is not available, the examining physician will examine the mouth of the registrant. The examining physician will take blood from the registrant for a serologic test. The blood specimen will be collected in a container furnished by the state health officer and will be forwarded to the state laboratory or other laboratory designated by the state director of Selective Service, together with the accomplished form prescribed within the state for such purpose. If the report on the first serologic test of the registrant is other than truly negative, the examining physician will take additional blood for further serologic tests until he is satisfied that the blood is truly negative, truly doubtful or truly positive. Additional blood for further serologic tests will not be taken if distance or circumstances over which the local board or the registrant has no control make it impracticable for additional tests to be taken. Serologic tests will be accomplished without expense to the Selective Service System, unless such expense is specifically authorized by the director of Selective Service. No other laboratory procedures will be undertaken as a part of this physical examination.

(*d*) Local boards, with the assistance of the examining physician and such agencies as may be designated by the state director of Selective Service, should seek from any source possible information bearing on a history of mental disease in the family of the registrant or social maladjustment, poor work record, other mental or personality disorders of the registrant or any physical condition which might cause the armed forces ultimately to reject the registrant. This information may be secured from local social agencies, school systems, state hospitals, training schools for defectives and any other sources. The local board shall submit lists of registrants whose physical qualifications are being considered to such agencies as the director of Selective Service or state director of Selective Service may specify to assist in securing this information. The examining physician shall review the information thus received, and the local board shall forward this information or an abstract thereof to the induction station in accordance with arrangements mutually agreeable to the state director of Selective Service and the induction station for the transmittal of such information. When such information is being forwarded, a notation to that effect will be entered under "Remarks," item 25 of the Report of Physical Examination and Induction (form 221).

(*e*) The examining physician may report to the local board that a registrant is suffering from a condition listed in the List of Defects (form 220), basing his report on one or more of the following: (1) the physical examination of the registrant while he is before him; (2) his personal professional knowledge of the registrant's physical condition; (3) an acceptable affidavit from a reputable physician to the effect that such physician has personal professional knowledge of the registrant's physical condition, provided such affidavit is filed with the local board; or (4) an official statement from a government or state agency concerning the physical condition of the registrant.

(including a statement concerning a registrant who has been cared for in St. Elizabeths Hospital, Washington, D. C., or in a Veterans' Administration facility), provided such statement is filed with the local board.

(*f*) The examining physician shall procure from the registrant the necessary information and shall complete items 22 and 23 of the Report of Physical Examination and Induction (form 221).

(*g*) The examining physician shall enter in item 24 on the Report of Physical Examination and Induction (form 221) the result of the serologic tests as "Truly Negative," "Truly Doubtful" or "Truly Positive."

(*h*) The examining physician will enter in item 25 on the Report of Physical Examination and Induction (form 221) any pertinent remarks which he deems advisable for the benefit of the examiners at the induction station.

(*i*) The examining physician, in item 26 on the Report of Physical Examination and Induction (form 221), shall complete the answer to the following question:

Do you find that the above named registrant has any of the defects set forth in the List of Defects (form 220)?

If the examining physician's answer is "Yes," he shall describe the defects in order of their significance. If the examining physician entertains a doubt as to whether he should answer "Yes" or "No," his answer shall be "No." No other information should be included under item 26.

List of Defects

Registrants having any of the following physical defects are disqualified for service in any branch of the armed forces and shall be classified in class IV-F.

ALPHABETICAL LIST

Abscess of the lung.

Achondroplasia.

Acromegaly or gigantism if markedly disfiguring or if associated with other symptoms of severe pituitary dysfunction.

Actinomycosis.

Acute rheumatic fever.

Adhesions of the lids to each other or to the eyeball.

Albino.

Amputation of an arm or leg, or complete or partial loss of a hand or a foot.

Amputation of the penis, if the resulting stump is insufficient to permit normal function of micturition.

Anus, fistula of.

Anus, paralysis of the sphincter of.

Aphonia.

Alopecia universalis.

Arch, transverse of foot, obliteration of, associated with permanent flexion of the small toes (claw toes) or with symptoms.

Arm, amputation of.

Arthritis, chronic, with deformity, disabling or with symptoms.

Asthma, chronic.

Atresia of one or both external auditory canals.

Atrophic rhinitis, chronic, with offensive odor (ozena).

Atrophies, and dystrophies, muscular, which are obviously disqualifying.

Auditory canals, external, atresia of one or both.

Blindness, total.

Bone, diseases or deformities of, which seriously interfere with the weight bearing function, with the full use of the limbs or which would prevent the performance of full duty as members of the armed forces.

Bone, tuberculosis of.

Brain, disease of.

Breathlessness, in circulatory failure.

Bronchitis, chronic, with emphysema.

Canals, auditory, external, atresia of one or both.

Carcinoma or other malignant disease of any organ or part of the body.

Cardiovascular syphilis.

Cerebrospinal syphilis.

Chest wall, tuberculosis of.

Chronic pemphigus.

Circulatory failure, evidenced by definite symptoms such as a combination of breathlessness, cyanosis and edema.

Cleft palate, with or without prosthetic appliance.

Clubfoot, if marked in degree or which interferes with the wearing of a military shoe.

Coloboma of iris, severe.

Contraction of muscle, or paralysis, which disturbs function to the degree of interference with service.

Contraction, spastic, of the muscles of the neck if sufficient to prevent free rotation.

Cornea, ulcer of.

Cretinism.

Curvature of spine, if greater than 3 inches in lateral deviation or kyphosis or lordosis, severe enough to prevent wearing of equipment or uniform.

Cyanosis, in circulatory failure.

Deafness, total.

Deformities, congenital or due to fracture, injury or disease which seriously interfere with function and weight bearing power.

Deformities, of the nose, throat and mouth which interfere with the mastication of ordinary food, with speech or with breathing or that create an unsightly condition.

Deformities, postural, associated with disease of the sacroiliac and lumbosacral joints, obviously associated with muscular spasm, and limitation of motion in the lumbar region of the spine, and if malingering is definitely excluded.

Dermatitis herpetiformis.

Dilatation of heart, and hypertrophy evidenced by displacement of the apex impulse to the left of the midclavicular line or below the sixth rib.

Disease, malignant, of any organ or part of the body.

Dislocations, old, unreduced.

Dwarfism.

Dystrophies and atrophies, muscular, which are obviously disqualifying.

Edema, in circulatory failure.

Elephantiasis.

Emphysema.

Empyema.

Enlargement of thyroid, from any cause associated with toxic symptoms, or not associated with toxic symptoms but of sufficient size to interfere with wearing of uniform or equipment.

Epidermolysis bullosa.

Epilepsy.

Epispadias, if of a degree to interfere with normal micturition.

Esophagus, destructive lesions of.

Exophthalmic goiter.

Exostoses of skull, large, which will prevent the individual from wearing headgear of any branch of the armed forces.

Extremity, loss of.

Eyelid or eyelids, conditions of, such as inversion or eversion of such degree that forcible closure fails to cover the eyeball or in which there is a resultant conjunctival inflammation, corneal irritation or a restriction of the rotation of the eyeball.

Eyes, abnormal conditions of, due to disease of the brain.

Eyes, disfiguring scars of.

Feces, incontinence of.

Fingers, loss of more than three entire fingers of one hand.

Fistula, urinary, abdominal, osseous or postoperative.

Fistula of the anus.

Flat feet, if accompanied by marked symptoms and deformity.

Foot, complete or partial loss of.

Fractures, of the vertebrae or pelvic bones, with associated disqualifying rigidity.

Fractures, ununited.

Frohlich's syndrome, if severe.

Fungoides, mycosis.

Gigantism, or acromegaly if markedly disfiguring or if associated with other symptoms of severe pituitary dysfunction.

Glaucoma.

Goiter, exophthalmic.

Goiter, nontoxic, but of sufficient size to interfere with wearing of uniform or equipment.

Hallux valgus (displacement of great toe toward the other toes), if severe and associated with marked exostosis or bunion, especially when there are signs of irritation above the joint.

Hand, complete or partial loss of.

Heart, dilatation or hypertrophy of, evidenced by displacement of the apex impulse to the left of the midclavicular line or below the sixth rib.

Hemiplegia.

Hemorrhoids, external or internal, associated with prolapse of the rectum.

Hermaphroditism.

Hernia, complete, operable or inoperable.

Hernia of the brain.

Hip, diseases of, which seriously interfere with function and weight bearing power.

Hodgkin's disease.

Hydrocephalus, or monstrosity of the head.

Hypertrophy and dilatation of the heart evidenced by displacement of the apex impulse to the left of the midclavicular line or below the sixth rib.

Hypospadias, when opening is proximal to coronal sulcus.

Hysterical paralysis.

Idiocy.

Imbecility.

Immaturity as manifested by infantilism, or failure of development of secondary sex characteristics. Recheck in six months.

Impetigo, chronic.

Incontinence, feces or urine.

Insanity, with commitment, or history of commitment, or with authentic medical history of treatment for insanity without commitment.

Jaundice, in a degree and kind beyond any question of doubt. Recheck in six months.

Jaws, diseases of, and of associated structures which are likely to incapacitate the individual for satisfactory performance of duty. Extensive loss of oral tissue in an amount that would prevent replacement of missing teeth by a satisfactory denture.

Joint, tuberculosis of.

Keratitis.

Knee, diseases of, which interfere with function and weight bearing power.

Kyphosis of a degree sufficient to prevent wearing of uniform and equipment.

Lagophthalmos, if associated with signs of hyperthyroidism.

Laryngeal paralysis due to any cause.

Larynx, destructive lesions of.

Leg, amputation of.

Leprosy.

Leukemia of any type.

Lordosis, if of sufficient degree to prevent wearing of uniform or equipment.

Lumbosacral and sacroiliac joints, disease of, obviously associated with muscular spasm, postural deformities, or limitation of motion in the lumbar region of the spine, and if malingering is definitely excluded.

Lung, abscess of.

Lungs, tuberculosis of, active, or authentic history of treatment for, within preceding five years.

Lupus vulgaris.

Lymph nodes, enlargement of, in leukemia or Hodgkin's disease.

Lymph nodes, tuberculous.

Lymphosarcoma.

Malignant disease of any organ or part of the body.

Metallic poisoning, chronic, except argyria.

Monstrosity of the head, or hydrocephalus.

Mouth, destructive lesions of.

Mouth, gross abnormalities which interfere with mastication of food, with speech or with breathing or create an unsightly condition.

Multiple sclerosis.

Muscle, contraction or paralysis of, which disturbs functions to the degree of interference with service in the armed forces.

Muscular atrophies and dystrophies which are obviously disqualifying.

Muscular spasm, associated with disease of the sacroiliac and lumbosacral joints obviously associated with postural deformities, or limitation of motion in the lumbar region of the spine, and if malingering is definitely excluded.

Mutism.

Mycosis fungoides.

Myxedema.

Neck, enlargement of lymph nodes of, in leukemia or Hodgkin's disease.

Neck, spastic contraction of the muscles of, if sufficient to prevent free rotation.

Nephritis, acute or chronic.

Nose, destructive lesions of.

Nose, deformities of, which interfere with mastication of ordinary food, with speech or with breathing or which create an unsightly condition.

Orbit, any tumor of.

Osteoarthritis, complete or partial, of the spinal column.

Osteomyelitis, active, of any bone or a substantiated history of osteomyelitis of any of the long bones within the past five years.

Overweight, excessive, which is greatly out of proportion to the height if sufficient to interfere with normal activity or with proper training.

Ozena, chronic atrophic rhinitis with offensive odor.

Paget's disease (osteitis deformans).

Palate, cleft, with or without prosthetic appliance.

Paralysis, hysterical.

Paralysis, laryngeal, due to any cause.

Paralysis, or contraction of muscle, which disturbs functions to the degree of interference with duty.

Paralysis, sphincter of the anus.

Paraplegia.

Parkinsonian syndrome, marked.

Pellagra.

Pelvic bones, healed fractures of, with associated disqualifying rigidity.

Pemphigus, chronic.

Penis, amputation of, if the resulting stump is insufficient to permit normal function of micturition.

Peripheral vascular diseases with manifest pathologic changes.

Pes planus, if accompanied by marked symptoms and deformity.

Poisoning, metallic, chronic, except argyria.

Postural deformities, accompaning disease of the sacroiliac and lumbosacral joints obviously associated with muscular spasm, and limitation of motion in the lumbar region of the spine, and if malingering is definitely excluded.

Prolapse of the rectum.

Ptosis of eyelids interfering with vision.

Purpura.

Rectum, prolapse of.

Rheumatic fever, acute or chronic, or history of recurrent attacks.

Rhinitis, atrophic, chronic, with offensive odor (ozena).

Ribs, tuberculosis of, and other parts of the chest wall.

Sacroiliac and lumbosacral joints, disease of, obviously associated with muscular spasm, postural deformities or limitations of motion in the lumbar region of the spine, and if malingering is definitely excluded.

Scars, adherent, of skin or soft tissue of a degree which seriously interfere with function.

Scars, disfiguring to such an extent as to be unsightly or which interfere with function of a limb or part to such a degree as to prevent satisfactory performance of service in the armed forces.

Sclerosis, multiple.

Sinus of the abdominal or chest wall.

Skin, adherent scars of, or soft tissues, to a degree which seriously interfere with function.

Skin, chronic ulcers of, if severe in degree or associated with varicose veins.

Skull, deformities of, of any degree associated with evidences of diseases of the brain, spinal cord, or peripheral nerves.

Skull, depression of, of a serious degree.

Skull, exostoses, large, which will prevent the individual from wearing headgear of any branch of the armed forces.

Spasm, muscular, with disease, of the sacroiliac and lumbosacral joints, obviously associated with postural deformities or limitation of motion in the lumbar region of the spine, and if malingering is definitely excluded.

Sphincter of the anus or urethra, paralysis of.

Spinal column, osteoarthritis of, partial or complete.

Spine, curvature of, if greater than 3 inches in lateral deviation, kyphosis or lordosis, severe enough to prevent wearing of uniform or equipment.

Spleen, great enlargement of, from any cause.

Spondylitis, disabling or deforming.

Stammering or stuttering to such a degree that the registrant is unable to express himself clearly or to repeat commands.

Strabismus, permanent, or well marked.

Syphilis, cerebrospinal, cardiovascular, visceral.

Sycosis (barbers' itch or other types). Reconsider after recovery.

Throat, destructive lesions of.

Throat, gross abnormalities of, which interfere with mastication of food, with speech or with breathing or create an unsightly condition.

Thumbs, loss of both.

Thyroid enlargement from any cause associated with toxic symptoms or not associated with toxic symptoms but of sufficient size to interfere with wearing of uniform or equipment.

Total deafness.

Tracheostomy.

Trachoma.

Transverse arch of foot, obliteration of, associated with permanent flexion of the small toes (claw toes) or with symptoms.

Tuberculosis, active, of any part of the body.

Tuberculosis, healed, of any portion of the vertebral column.

Tumor of brain.

Tumor of orbit.

Ulcer of cornea.

Ulcers, chronic, of skin, if severe in degree or if associated with varicose veins.

Urinary fistula.

Varicose veins, if severe in degree or associated with edema, or with present or previous ulcer of the skin.

Vascular diseases, peripheral, with manifest pathologic changes.

Veins, varicose, if severe or associated with edema or with present or previous ulcer of the skin.

Vertebrae, healed fractures of, with associated disqualifying rigidity or deformity.

Vertebral column, tuberculosis of any portion, healed.

Viscera, syphilis of.

Weight, excessive overweight which is greatly out of proportion to height if sufficient to interfere with normal physical activity or with proper training.

Xerophthalmia.

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Conditions which may not be manifest but which may be certified as disqualifying a registrant for service in any branch of the armed forces and classified as IV-F, when they are known to the examining physician, in accordance with section 623.33(*e*), as amended, of the regulations:

Acute diseases, other than venereal. Reconsider after recovery.

Addison's disease.

Alcoholism, chronic, to such a degree that it interferes with earning a living in civil life.

Anemia, pernicious, necessitating the constant parenteral administration of liver extract.

Diabetes insipidus, moderate or severe.

Diabetes mellitus, if severe or if necessitating the constant administration of insulin.

Drug addiction.

Enuresis, continuous, from childhood.

Epilepsy.

Hypoglycemia, chronic, persistent to such a degree that it interferes with earning a living in civil life.

Insanity with commitment or history of commitment or with authentic medical history of treatment for insanity without commitment.

Nephritis, acute or chronic.

Peptic ulcer, active, confirmed by x-ray examination.

Rheumatic fever, acute or chronic or with history of recurrent attacks.

Sex perversion.

Tuberculosis of any part, active within five years.

TRANSACTIONS OF THE ASSOCIATION

1943 SESSION

PART 1

TRANSACTIONS OF THE SEVENTY-SIXTH CONSECUTIVE ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA, HELD AT BIRMINGHAM, APRIL 20-22, 1943.

First Day, Tuesday, April 20

The Medical Association of the State of Alabama convened in the Ballroom of the Tutwiler Hotel, Birmingham, and was called to order at 10:00 A. M. by the President, Dr. H. B. Searcy of Tuscaloosa.

Invocation was offered by Rt. Rev. C. C. J. Carpenter, Birmingham, Bishop of Alabama.

Almighty God, heavenly Father, who hast put into the hearts of men the desire for abundant living in this good world which Thou hast created, and hast granted to certain of thy children special talents and abilities to minister to the needs of the sick and afflicted, grant to Thy Ministers of Medicine, ever increasingly, the skill to relieve suffering and repair injury. Fill their minds with the knowledge of Thy close presence as they go about doing good. Make them deeply sensible of their dependence upon Thee and their responsibility to their fellow men. Give them courage in the face of danger, patience with human frailty, strength for their arduous labors, and zeal for the betterment of mankind. All of which we ask in the name of Him who taught us to care for the body as well as the soul, Thy Son, our Saviour Jesus Christ. Amen.

Addresses of welcome were delivered by Hon. Cooper Green, Chairman, Birmingham City Commission; and Dr. Kyle J. Kinkead, President of the Jefferson County Medical Society, host to the Association.

The Secretary read to the Association the following communications addressed to it by Drs. Virginia E. Webb and John H. Green of Mobile.

Mobile, Alabama
September 17, 1943

To the Medical Association of the State of Alabama
Through: The State Board of Censors

Gentlemen:

I, the undersigned, appeal from the action of the Mobile County Medical Society in denying me membership therein, and in support of my appeal offer the following statement of facts.

On December 1, 1942 I came to Mobile to enter practive limiting myself to obstetrics and gynecology. My reasons were as follows:

I am a native of Mobile County and my father devoted nearly 50 years of his life to the practice of medicine in this county. At the time of his death he was a member in good standing in the county society. I feel that there is a great need for physicians in this area to serve the civilian population, and since I am a woman and not eligible for military service, I feel that I should do my part in serving this population.

My education and training are as follows:

B. S., Birmingham Southern College, 1929.
B. M., Louisiana State University Medical Center, 1933.
M. D., Louisiana State University Medical Center, 1934.
M. P. H., Harvard University, 1938.
General rotating internship, New Orleans Charity Hospital, 1933-34.
Teaching Fellowship in Obstetrics, Louisiana State University Medical Center, 1934-36.
Senior Resident in Obstetrics, New Orleans Charity Hospital, December 1, 1935-June 30, 1936.

I successfully passed the Louisiana State Board medical examination in 1933 and upon completion of internship was issued license in 1934. In 1942 I was granted a certificate to practice medicine by reciprocity in the state of Alabama.

Prior to returning to Mobile, I was connected with the Louisiana State Department of Health. From July 1936 to June 1939 I served as obstetric consultant on the maternal and child health staff, and from June 1939 to November 1, 1942 served as director of the maternal and child health program in Louisiana.

Since graduation from medical school, I have been a member in good standing of one of the local parish societies in Louisiana and the Louisiana State Medical Society. Attached is copy of letter of recommendation which was submitted by the President of the Orleans Parish Medical Society to the Mobile County Medical Society.

In the light of the foregoing and knowing no reason, professionally, ethically, or otherwise why I should not be allowed to enjoy the benefits of membership in organized medicine, through the Mobile County Medical Society, I respectfully request that my case be reviewed and decision rendered by the Medical Association of the State of Alabama sitting in business session in Birmingham, on Thursday, April 22, 1943.

In witness whereof I have affixed my signature on this the 17th day of April, 1943 in the city of Mobile.

Signed: Virginia E. Webb
Witness: E. S. Sledge

THE ORLEANS PARISH MEDICAL SOCIETY

Dr. W. W. Scales, Secretary
Mobile County Medical Society,
1201 Springhill Ave.,
Mobile, Ala.

Dear Dr. Scales:

Dr. Virginia E. Webb was an Active Member of the Orleans Parish and Louisiana State Medical Societies, and was in good standing at the time of her removal from the Parish of Orleans.

Dr. Webb was very active in this Society and the State Society, and I feel she will make you an excellent member.

Hoping that she will become affiliated with your organization, I am

Yours very truly,

Signed: H. B. Alsobrook, M. D.
President

Whistler, Alabama,
April 17, 1943.

To the Medical Association of the State of Alabama

Through: State Board of Censors,
Birmingham, Alabama

Gentlemen:

The undersigned appeals from the action of the Mobile County Medical Society in denying him membership therein and, in support of this appeal, offers the following statement of facts in his case.

I am a native of Alabama, and my forebears on both sides were among the earliest settlers in this state. My father was an itinerant Methodist preacher in Alabama and Virginia for thirty-seven years. My educational training was received in Virginia where I was awarded the B. A. degree from Randolph-Macon College in 1916. After ten years of teaching in the public schools I entered the University of Virginia Medical School from which I received my M. D. degree in 1929. During my stay at Virginia I was for one year instructor in pharmacology and materia medica and for two years held the Ryan Scholarship from the 9th Congressional District of Virginia. My licensure was completed in Virginia in 1929 and, due to financial necessity, I entered general practice without any formal interneship.

From 1929 to 1931 I was located at Brownsburg, Rockbridge County, Virginia, where I was affiliated with the county medical society at Lexington, Virginia.

In 1931, I moved from Brownsburg, Virginia to Raleigh County, West Virginia, where for eleven years I was local physician and surgeon for the Slab Fork Coal Company, Slab Fork, West Virginia. During this entire time I was a member of the Raleigh County Medical Society, the West Virginia State Medical Society and the American Medical Association. Only a few months before I removed to Mobile County, I was elected vice-president of the Raleigh County Society.

All the foregoing verifiable facts are in the files of your honorable board and were but recently filed in my application for licensure in Alabama.

As soon as I was definitely established in Alabama I inquired as to membership in the Mobile County Medical Society. I was advised not to apply for a while for reasons well known to some of the members of your board. Hence my application was filed only a few weeks ago and acted on unfavorably at the local society's most recent meeting.

In the light of the foregoing and knowing no reason, professional, ethical or otherwise why I should not be allowed to continue to enjoy the benefits of membership in organized medicine through the only available organization, the Mobile County Medical Society, I respectfully request that my case be reviewed and a decision rendered by the Medical Association of the State of Alabama, sitting in business session in Birmingham on Thursday April 22, 1943.

In witness whereof I have affixed my signature on this the 17th day of April 1943 in the city of Whistler, Alabama.

Signed: John H. Greene, M. D.

Subscribed and sworn to before me this 17th day of April, 1943.

Milah M. Kelley,
Notary Public Mobile Co. Ala.
My commission expires May 20, 1946.

The foregoing appeals of Drs. Virginia E. Webb and John H. Greene were referred without discussion to the State Board of Censors.

Junior Vice-President B. W. McNease of Fayette presented President Searcy who delivered his message as follows:

The President's Message

The presidency of the Medical Association of the State of Alabama is a high honor, implying scientific achievement, character, leadership and faithful service to the Association. My scientific achievements have been of little value, my professional success only mediocre, but my attendance upon local County Medical Society and State meetings has been faithful for 36 years. I again express gratitude for this further honor which you have bestowed upon the name Searcy in Alabama medical history. My grandfather, Dr. Reuben Searcy, located in Tuscaloosa in 1826, and was instrumental in the establishment of this Association and the Alabama Insane Hospitals. My father, Dr. James T. Searcy, was President of the Association in 1893, and delivered the first Jerome Cochran Lecture in 1899. Dr. George H. Searcy, my brother, was a member of the Board of Censors at the time of his death in 1935, and was awarded (posthumously) a citation for his work on pellagra.

As your President I give thanks to the military authorities of the United States for encouraging this meeting by sending to us outstanding speakers in this crucial time of military debridement of political Europe. The information gained by this conference will be of value for both military and civilian defense.

Officially, during the past year, I visited several of the district meetings which met regularly until war activities curtailed their number and attendance. I made appointments under the guidance of our able Secretary. I antagonized the Committee on Procurement and Assignment, which was asking for all physicians under the age of 45, worked toward the deferment of pharmacists and pharmacy students, visited Montgomery on two occasions with the Committee on the Four-Year Medical School, attended meetings of the Board of Censors, by invitation, and called attention to Tire and Gas Rationing Boards that illegal practitioners and cultists were not entitled to same rating as physicians. I especially studied the many ramifications of the duties of the Board of Censors, the Department of Health, and the editing of the Journal and hereby congratulate the Association upon the efficient manner in which these departments are conducted. I was particularly impressed with the magnitude of the State Health Department and the need for more space and personnel, and the possibilities for greater service to the people of Alabama if additional funds were available. Chairmen and secretaries of the sections of the scientific program were appointed early from the membership in the locality in which the meeting was scheduled, as is customary. Full authority was given these chairmen in the arrangement of their sectional meetings and they, with the cooperation of Dr. Cannon and the President, acted as the program committee. I take this opportunity to thank these members personally and those on the program for valuable assistance and contributions.

Again, as in all wars, the medical profession has been called among the first to separate the fit from the unfit, and will be expected to be the last permitted to leave the service because of wounds to heal. Although Alabama was high-pressured into contributing 209 per cent of its allotted quota, there has as yet developed no serious health menace to the civilian population due, in my opinion, to diligent work on the part of the State Health Department and the fortitude of the old and physically handicapped home guard, and probably the sulfa drugs.

Sacrifices made by physicians entering military duty increase with the age of the physician. The older men have spent many years becoming established and will have fewer years afterwards to become reestablished. From having seen service overseas 25 years ago, I conclude that there are more casualties and less complacency among the "weaklings" left at home than among those in uniform, due to longer hours, larger responsibilities, greater anxieties, fewer consultations, and added expense without the stimulation of bands, uniforms, comradeship, prospects of promotion, aggrandizement and added adventures.

The medical profession, as well as all of its allied professions, is being seriously depleted during this time of international schizophrenia. The State cannot afford to curtail or dispense with the services of any of these professions. Our educational institutions must be subsidized to exist, and hospital beds for teaching purposes must be supported by charitable institutions from public funds. When a young physician is finally prepared to practice medicine he is indeed a public servant and greatly indebted to the State, and is now and has always been found ready and willing to serve the State whether in war or in peace. We must be ever on guard as to the character of the individuals who enter our medical schools and to uphold the ethics so essential to our profession. One unscrupulous physician in a community can commit many crimes under the cloak of professional secrecy, and yet continue to hold the respect of the unknowing public, whenever the members of the medical profession fail in their duty to the State that gave us the laws that permit professional secrecy, our education, and our opportunities within the borders of the State. These are some of the debts we acknowledge we owe the State, but the State also has obligations to the medical profession, and, through it, to pre-

ventive medicine and public health. Alabama should increase her facilities for medical education to meet the demands of an increasing population and a public no longer ignorant of needs in health matters. A complete school for medical education in Alabama would provide more physicians, nurses, technicians, health officers, field workers, properly trained masseurs and other allied personnel which were all greatly needed prior to Pearl Harbor. When peace does eventually come and more than one-third of all those now in the armed forces are kept there for the medical personnel of the huge postwar Army, Navy, Veterans' Hospitals, and sanitary engineers, augmented by casualties in both the military and civilian ranks, our State will have a health problem greater than ever before. I cannot anticipate the lot of the physician with much optimism. With fewer colleagues, increasing population, prospects for State Medicine (which kills incentive and promotes indifference), the position of the conscientious physician is more apt to be that of a slave rather than a willing servant, while cults, faddists and pestilence prevail. The establishment of a four-year medical school will not in itself produce peace, happiness and public health, but it will eliminate some of the evils of postwar reconstruction.

It is a duty of the President to submit a message to you devoted to a discussion of the interests, organization, objects, or business of the Association. This I have attempted to do, and conclude with certain recommendations which I believe will strengthen our organization.

RECOMMENDATIONS

(1) I recommend that Section 1, Article VIII of the Constitution of the Association, which reads as follows:

Section 1.—The officers of the Association shall be:

(1) One president
(2) Four vice-presidents
(3) One secretary
(4) One treasurer
(5) Ten censors

be changed to read as follows:

Section 1.—The officers of the Association shall be:

(1) One president
(2) One president-elect
(3) Four vice-presidents
(4) One secretary-treasurer
(5) Ten censors

with whatever other changes are necessary to make this amendment constitutional.

This Association has grown to such an extent since the days of Jerome Cochran that when a president is elected he is confused with the magnitude of his office and needs a year in which to orient himself.

(2) I further recommend that the president be made an *ex-officio* member of the Board of Censors when sitting as a State Committee of Public Health.

Section 31, Article VIII of the Constitution reads as follows:

When acting as a State Committee of Public Health—the governor being *ex-officio* chairman —the board shall, through its executive officer—the State Health Officer—supervise and direct the administration of the public health and quarantine laws of the state.

I recommend that this section be changed to read as follows:

When acting as a State Committee of Public Health—the governor being *ex-officio* chairman and the president an *ex-officio* member—the board shall, through its executive officer—the State Health Officer—supervise and direct the administration of the public health and quarantine laws of the state.

The Medical Association of the State of Alabama is the State Board of Health. The president of the Association cannot sit with the State Committee of Public Health, i.e., the Board of Censors, except by invitation. The objection always raised to the president having a vote on matters dealt with by the State Committee of Public Health, i.e., the Board of Censors, is that he is too inexperienced to act intelligently. The present Board of Censors has served long, faithfully, diligently and magnificently, but it is time in my opinion for the training of future members, who, I sincerely hope, will not be needed for many years.

(3) My third recommendation has to do with the election of the State Health Officer.

Section 6, Article XIII, reads as follows:

The Board shall elect from the College of Counsellors, by not less than a majority vote of its members, an executive officer to be known as the State Health Officer, and shall submit the name of the officer so elected to the Association (The State Board of Health) in annual session, for confirmation.

I recommend that Section 6, Article XIII, be changed to read as follows:

The Board shall elect, by not less than a majority vote of its members, an executive officer to be known as the State Health Officer, and shall submit the name of the officer so elected to the Association (The State Board of Health), in annual session, for confirmation.

This change would permit the Association to elect a state health officer regardless of his membership and thereby permit the State to get the best man available. This law was written before the business of health officer required the services of a specially trained person but limited the selection to the 100 counsellors who were chosen and elected to the College of Counsellors because of outstanding ability in the practice of medicine and not because of their qualifications for work as a health officer. This State has in the past been indeed fortunate in its selection of health officers, and I sincerely hope it will be many years before another health officer will have to be elected, but, when that emergency does occur, we should not be handicapped with an obsolete law in our selection of the best man available

(4) Finally, it is my opinion that all recommendations to be made by the president in his message should be published in the Journal a month prior to the annual session, so that all members of the Association may have an opportunity to study them and discuss them in county society meet-

ings, if they desire. I recommend that such publication be authorized.

The President's message was referred without discussion to the State Board of Censors.

REPORTS OF OFFICERS AND COMMITTEES

The reports of officers and committees were received, and each referred in its turn, without discussion, to the Board of Censors. These reports follow:

Report of Vice-President Tillman
Southeastern Division

As Vice-President of the Southeastern Division, this is my fourth report to you. From recent returns made by their secretaries, I shall endeavor to give a summary of conditions as they exist in the seventeen county medical societies of the division.

After compiling the facts and figures contained in these reports, I find that there are 342 doctors in my division. Of this number, 298 are members of their respective county medical societies, and the remaining 44 are nonmembers. While this year's report reflects a decrease of 25 doctors, it shows a growing tendency upon the part of physicians to belong to county societies. Last year's report showed 17% nonmembers. This year less than 15% are nonmembers. Four counties—Coffee, Chilton, Crenshaw and Bullock—report 100% membership. As you see, we still have too many doctors unidentified. Every county should put forth a strong effort to make every doctor a member of the county medical society.

Fifty-two doctors are now serving in some branch of the armed forces and two are serving in Veterans' Hospitals. While this is an increase of 29 over the number reported last year, there are five counties in the division not yet represented in military service.

Seven counties—Coffee, Bullock, Montgomery, Geneva, Chilton, Pike and Houston—still have regular monthly meetings. Five counties—Autauga, Barbour, Dale, Crenshaw and Lee—have call meetings only for the duration of the war. Henry and Macon meet quarterly. Elmore has six meetings each year, and Covington has two meetings each month. This is a good record for any society.

As to the interest shown in these meetings, nearly all counties reported fair or good. Three counties—Henry, Macon and Covington reported very good. Crenshaw reported no interest. Geneva: Not as good as before the war. And Dale: Too busy for meetings.

Because of restrictions on travel imposed by war-time conditions, and the very busy attitude that most of us have assumed during recent months, I failed to receive much encouragement in regard to holding a divisional meeting. Therefore, we had no meeting during the past year.

The doctors in the majority of the counties of our division are doing a special type of medical care for the people supported by FSA. This has been done at considerable sacrifice. There is this year an increase in funds available, perhaps to all the counties in this division, for medical care and medicines for each family; and I believe the present set-up is going to prove more satisfactory to all concerned.

From reports received, it appears that the people as a whole are becoming more and more interested in public health and that the doctors and the laity are co-operating in trying to bring about better living conditions.

In closing my four years as Vice-President of the Southeastern Division, I wish to thank you for your support and for all courtesies extended me.

Reports of Vice-Presidents Smith and McNease
Northwestern Division

I had hoped that when the time came for the rendition of these reports I should be able to read mine to you in person. When I reported for active duty I did not realize the precipitate haste that would land me and many others in North Ireland. Some of the others have put on the splendid show in North Africa. I have been here in the rear hoping that they will find a job for my unit. But since I am in this verdant island and there is little chance of my getting a furlough home, someone else shall have to read these few words.

In May there was a meeting of the division at Haleyville. Seventy-seven members of the division and visitors enjoyed a noon meal which was followed by the scientific program. As usual in these unusual times, a part of our program was on the Army and war aims. Five of the doctors volunteered for Army service at the time. The next meeting was set for Decatur in October.

Following the meeting your executive officer drove 850 miles attending meetings in the various counties and talking to the members about the war program. He realized that there would be a shortage of physicians in the area but felt that all that were in the younger age groups should avail themselves of an early enlistment with its choice of services and probable early promotion. The response from all the men seen was very favorable. While in Decatur at the meeting of the Morgan County Medical Society, the writer was ordered to active duty, to leave home June 17th. As soon as a report was received on the physical examination, a resignation was sent to the President of the Association.

There is a certain regret in not being able to finish a task which one has been given, though in this case I hope that you will excuse me. I look with pride upon my six years as an officer of the Association and thank you for the opportunity of serving. I know that now the work of my successor will be all the more difficult with the greater demands of the war upon the fewer doctors. And I also know that the members will give him every advantage and aid that it is possible for them to bestow.

I wish to again thank you for the opportunities that have been given me in the past, for the won-

derful cooperation that I have had, and hope that when this job is over you will again permit me to serve in whatever capacity you allow.

Merle E. Smith

* * *

On August 1, 1942 I was notified by Dr. Harvey Searcy that I had been appointed to serve as Vice-President of the Northwestern Division of the Medical Association of the State of Alabama for the remainder of the year. My appointment was confirmed a few days later by Dr. Cannon. The vacancy in this office had resulted from Dr. Merle Smith's resignation and subsequent voluntary entry into the Army.

Dr. Smith, after only a short stay in camp here in the States, is now serving with the armed forces overseas. Knowing him, as we all do, I feel confident that he is doing as good work in his present endeavor as he did in the practice of the Art of Medicine in his chosen locality, and as he did in the interest of our State Medical Association, and especially the division that he represented.

Quite naturally, I felt, and feel deeply grateful for the great honor of being selected for this office in our State Medical Association. At the same time, I realize the spot on which I have been placed in assuming the responsibility of carrying on the work so ably done for several years by Dr. Smith.

Only one meeting was held in the Northwestern Division during the past year. This meeting was held at Haleyville, in Winston County, in May. An account of this meeting is given in Dr. Smith's report.

It had been planned by Dr. Smith to have a second meeting in October at Decatur, in Morgan County. Of this, I was not aware until November at which time I was in Montgomery attending a committee meeting called by Dr. Caldwell. Following my return home from this meeting, I conferred with members in different localities in the district and found that it was the general concensus that no other meeting should be attempted for the rest of the year, due primarily to the fact that all had more work to do than ever before as a result of so many of our colleagues having been called by the armed services.

I regret that I have been unable to attend any of the county medical society meetings in the district other than those of my own county.

In closing I should like to state that it is my considered opinion that for the duration only one district meeting a year should be attempted, and that this meeting should be held as near the center of the physician population as is possible. This suggestion is made for two reasons: first, on account of the increased amount of work all are having to do; and, second, the now difficult transportation problem resulting from tire and gasoline rationing, and the overcrowded transportation facilities, buses and trains.

B. W. McNease

Report of Vice-President Jones

Southwestern Division

We had two meetings in our division in 1943: the first in York, and the second in Repton. Both meetings were attended by about 60 doctors and visitors. We were royally entertained in both places. The programs included our president, Dr. Searcy, Drs. Hogan, Glaze and Douglas of Alabama, and Drs. Oschner and Findley of New Orleans.

I find that most of the medical societies meet regularly, and quite a number have good programs. We have lost about 55 doctors to the armed services out of an active list of some 250. Many communities now have too few doctors to go around.

As Vice-President and Secretary of the Wilcox County Medical Society, I have been interested in the various Farm Security medical care programs in our division. I have consulted with a number of our societies in working out their programs. In those counties in our division where the medical societies have taken an active interest in working out their FSA programs and have maintained a strict control of the distribution of funds, and type of medical care, the doctors report satisfaction. A majority of the criticism of FSA programs comes from hospitals and specialists, and is justified. Most of the counties do not allot enough funds to care for emergencies. I was recently shown a list of six counties that had paid a hospital only 10% of its December emergency bills.

Those of us over the state working on FSA programs have striven for four (4) years to secure a state-wide agreement sponsored by the State Board of Censors, fixing uniform fees, and setting up separate funds for general practitioners, drugs, specialists and hospitals. This plan we now have before our Association for its action. Eleven of the counties in the Southwestern Division have FSA programs. The following report on 1942 programs was furnished me by the FSA.

FSA MEDICAL CARE PROGRAM

	1942	1943
Average participation fee per family 1942	$ 17.20	
Estimated average participation fee 1943 rate 1942 families		$ 23.20
If all counties participated 100%	539,701.00	727,969.00
There was available in 41 counties cooperating, approximately	298,850.00	
In Southwestern Div. could have been	146,165.00	
In 11 counties with program there was approx.	119,889.00	
1943 rate, using 1942 participation as basis— State		403,100.00
Southwestern Div. 1942, using participation as basis		197,153.00

Trustees of medical program in some counties have not furnished complete information to this office on activities of county medical program. Based on those reports available to us we have the following picture:

Breakdown of Funds:

	Physicians	Emergency	Admin.
Wilcox	80	18	2
Sumter	85	15	
Perry	87	10	3
Dallas	80	17	3
Greene	87	10	3
Hale	80	17	3
Marengo: Pay approved emergency bills 100%			
Choctaw	80	17	3
Conecuh: Emergency $3.00 flat family rate for hospitalization			
Monroe: Emergency $4.00 flat family rate for hospitalization			
Butler	0	0	

Percentage payments—Based on reports on hand. Some counties complete, others as little as 4 months used:

	Physicians		Emergency Hospitalization
Butler	72.5%		87.4%
Choctaw	73.5		34.6
Monroe	62.0		$4.00 contract
Perry	101.2		100.00%
Dallas	71.6	Drugs	75.2
Lowndes—4 months report	100%	$74.71	80.3
Marengo*	21.3		100.00
Wilcox	92.3		62.0

*Marengo physicians bills for 10 months $36,931.50

County	No. Clients	No. Participating in Program	PHYSICIANS Bills Approved	PHYSICIANS Bills Paid	%	DRUGS Bills Approved	DRUGS Bills Paid	%	HOSPITALS Bills Approved	HOSPITALS Bills Paid	%
Butler*	533	529	$ 3,549.28	$ 2,618.27	73.8		$ 914.08		$ 1,062.50	$ 928.92	87.4
Choctaw	600	585	9,151.45	6,722.99	73.5	In physicians			3,427.75	1,185.88	34.6
Dallas	947	916	12,793.06	9,553.29	74.7	4,667.24	3,586.90	76.9	3,647.01	2,803.04	76.9
Greene	806	805	6,743.10	6,067.25	90.	4,601.31	4,442.21	96.5		371.15	
Hale	746	675	12,536.65	7,990.60	63.7	In physicians				81.00	
Lowndes	384	384	3,060.95	3,036.24	99.2	In physicians			698.00	510.00	73.1
Marengo	712	712	44,413.30	9,424.13	21.2	In physicians			2,080.25	2,080.25	100
Monroe	317	252	3,921.75	2,656.66	67.7	In physicians			Contract $4.00 per year per family 5/1942-5/1943		
Perry	435	422	6,487.54	6,706.93	103.4	In physicians			584.40	525.33	89.9
Sumter	800	800	25,459.39	12.411.47	48.8	In physicians			3,766.50	2,002.84	53.2
Wilcox	969	939	14,886.63	13,849.42	93	In physicians			†1,156.20	1,067.20	92.3
TOTAL	7,249	7,019	143,003.30	81,037.25	‡56.7						

%96.8

*Six months for Butler.
†Wilcox—specialist and surgeons bills $995.00, paid $302.50—%30.4.
‡Average percentage, leaving Marengo out, 72.6%.

	1939	1940	1941	1942
748 families paid for medical care	$ 12,758.00			
794 families paid for medical care		$ 13,654.00		
967 families paid for medical care			$ 16,231.00	
939 families paid for medical care				$ 16,322.00
General practitioner and drugs	87%	80%	80%	80%
Specialist and hospital care	10%	17%	17%	18%
Administrative	3%	3%	3%	2%
General practitioner and drugs bills	$ 13,443.25	$ 18,353.73	$ 18,118.75	$ 14,886.63
Bills paid	11,048.38	11,263.25	13,063.91	13,849.42
	82%	61%	71%	92%
Hospital bills and specialist bills	$ 2,064.05			
Bills paid	1,097.25			
	51%			
Hospital bills		$ 1,205.45	$ 990.50	$ 1,353.20
Bills paid		974.45	967.00	1,231.20
		80%	98%	91%
Specialist bills		$ 1,419.50	$ 1,019.00	$ 1,025.00
Bills paid		469.20	416.50	337.50
		33%	40%	33%
Emergency obstetrics and surgery	$ 218.45	$ 500.00	$ 392.50	$ 541.00

Bills paid	201.95	496.00	392.50	541.00
Midwife bills	$ 111.00	$ 156.00	$ 216.00	$ 159.00
Bills paid	107.75	156.00	216.00	156.00
Dental bills	$ 66.00	$ 106.00	None	None
Bills paid	60.00	104.00		
Total bills for medical services	$ 15,888.15	$ 21,740.68	$ 20,746.75	$ 17,699.83
Bills paid	$ 12,456.45	$ 13,303.45	$ 15,782.99	$ 15,934.00
	78%	61%	73%	88%

Total general practitioner bills, 4 years, $76,075.41, paid $57,476.99 or 75%.
Total hospital and specialist bills, 4 years, $8,849.70, paid $5,293.80 or 60%.
Total of all bills, 4 years, $84,925.41, paid $62,770.79 or 73%.

Report of Vice-President Morgan
Northeastern Division

One meeting of this division was held during the year. We were entertained by the Marshall County Medical Society at Albertville on October 15th, 1942. The following program was arranged:

Training Children in Happiness, Mental Health Habits and Hygiene: Child Guidance and Parental Education—Dr. W. M. Salter, Anniston.

Low Spinal Anesthesia—Dr. J. E. Cameron, Alexander City.

Headaches—Dr. W. Lindsey Miller, Gadsden.

The Treatment of Prostatitis by the General Practitioner—Dr. E. W. Venning, Guntersville.

Common Problems in Lymph Node Enlargement—Dr. Albert E. Casey, Birmingham.

The FSA problem was discussed thoroughly. This discussion was led by our State Secretary, Dr. Douglas L. Cannon.

Many physicians from the Northeastern Division have entered the armed forces of our country, and in several sections the population has been increased by war activities. As a result of this, the physicians remaining in civil practice have been extremely busy. It was on account of this situation and other conditions resulting from the war that it was thought best to hold only one section meeting during the year.

The majority of our county medical societies hold regular meetings with interesting programs. I had the pleasure of attending meetings of the Madison and Clay County Medical Societies during the year. A few of the societies with small memberships are not holding regular meetings.

It appears that the health departments in all counties are functioning satisfactorily. In several parts of our division it has become necessary for one health officer to serve two counties. At first this resulted in some dissatisfaction but now the plan seems to be progressing nicely.

Report of the Secretary-Treasurer
Douglas L. Cannon

PHYSICIANS IN SERVICE

Physicians contributed by Alabama to the armed services of the United States may be divided into five groups: (1) physicians in practice or in public health; (2) those licensed to practice but who were serving interneships or residencies at the time of call; (3) internes or residents called to duty prior to licensure; (4) those who have been given their honorable discharge; and (5) physicians who have died while in military service. In order that the names of all these (313) may be a part of the archives of the Association, they are recorded as follows:

1. *Physicians in practice or in public health*—264

Chas. E. Abbott, Jr.	Tuscaloosa
Maurice J. Abrams	Brewton
William W. Alexander	Florence
Joseph W. Allen	Dothan
Henry L. Anderson	Birmingham
William D. Anderson	University
William O. Anderson	Alabama City
William Askew	Auburn
Henry E. Askin	Alexander City
Homer D. Barber	Fayette
William C. Barclift, Jr.	Birmingham
J. Mac. Barnes	Montgomery
Haywood S. Bartlett	Montgomery
Thomas D. Beatty	Cullman
Chester K. Beck	Troy
Ralph C. Benson	Birmingham
J. Warren Bickerstaff	Montgomery
William A. Blake	Chatom
William Henry Block	Hartselle
James E. Bobo	Gadsden
Nathan Bograd	Montgomery
Floyd T. Boudreau, Jr.	Mobile
Duke C. Bradford	Birmingham
John L. Branch	Montgomery
Walter S. Britt, Jr.	Eufaula
James W. Britton	Anniston
William R. Britton	Montgomery
A. J. Brown	Mobile
Hunter M. Brown	Birmingham
C. R. D. Burns	Alabama City
John D. Burns	Russellville
Raymond R. Callaway	Birmingham
Alfred Cherry	Birmingham
Alfred M. Chilton	Anniston
H. Davis Chipps	Birmingham
Henry W. Clapp	Montgomery
Hugh G. Clark	Clayton
Norborne R. Clarke, Jr.	Mobile
Ralph M. Clements	Tuscaloosa
Hunt Cleveland	Anniston
Henry J. Climo	Montgomery
Robert H. Cochrane	Tuscaloosa
Nace R. Cohen	Montgomery
James P. Collier	Tuscaloosa
Chalmers D. Collins	Birmingham
Henry C. Collins	Montgomery
Edward T. Comer	Eufaula
Isee L. Connell	Grove Hill

Ralls M. Coston	Birmingham
Daniel J. Coyle	Birmingham
John S. Crutcher, Jr.	Athens
William H. Darden	Birmingham
Marion T. Davidson	Birmingham
John Walter Davis, Jr.	Montgomery
John Woodfin Davis	Alabama City
Luther Davis, Jr.	Tuscaloosa
Sumner Davis	Talladega
Jeptha W. Dennis	Auburn
William H. DeRamus	Selma
Joseph M. Donald	Birmingham
Wm. L. Drake	Fairfield
Thomas C. Elliott	Butler
Francis T. England	Mobile
Clarence G. Farish	Moulton
James H. Farrior	Montgomery
James O. Finney	Gadsden
Edgar C. Fonde'	Mobile
William G. Fonde'	Chickasaw
Henry Grady Ford	Gadsden
Joseph W. Ford	Gadsden
John M. Forney	Tuscaloosa
Emmett B. Frazer	Mobile
Samuel S. Gaillard	Mobile
Robert E. Gary	Tuscumbia
Archibald M. Gaulocher	Montgomery
Otis F. Gay	Greenville
Henry S. Gehrken	Birmingham
Jules Gelperin	Birmingham
Ivan W. Gessler	Chickasaw
J. P. Gillespie, Jr.	Gadsden
Robert R. Gillespy	Birmingham
Edgar G. Givhan, Jr.	Birmingham
Harry Glazer	Montgomery
Edward F. Goldsmith	Prichard
George R. Gordon	Birmingham
Richard J. Grayson	Selma
Albert H. Green	Birmingham
Gilbert B. Greene	Birmingham
George W. Griffin	Birmingham
George D. Gross	Anniston
James C. Guin, Jr.	Moores Bridge
Virgil S. Gully	Butler
William A. Gunter, 3rd.	Montgomery
Eugene H. Hamilton	Tuscaloosa
Robert A. Hamrick	Birmingham
Gordon M. Hankins	Fairfield
Albert S. Hargis, Jr.	Birmingham
Seale Harris, Jr.	Birmingham
Andrew D. Henderson	Mobile
R. Walker Hendrix	Evergreen
Russell G. Hightower	Fairfield
Luther L. Hill, Jr.	Montgomery
Vivian H. Hill	Mobile
Joel J. Holladay, Jr.	Gadsden
Carl A. F. Holler	Ft. Payne
Norman W. Holman	Ozark
William C. Holmes	Foley
Julian P. Howell	Selma
Leslie H. Hubbard	Wilton
Thomas F. Huey, Jr.	Anniston
Horace C. Hunt	Livingston
Winston H. Irwin	Birmingham
B. Franklin Jackson, Jr.	Montgomery
John F. Jenkins, Jr.	Birmingham
Gayle T. Johnson	Mobile
Jno. Sheffield Jordan	Birmingham
Sidney A. Kahn	Birmingham
Elias N. Kaiser	Montgomery
James E. Kendrick	Greenville
Frank F. Kennedy	Birmingham
Wm. C. Kennedy, Jr.	Florence
James M. Kent	E. Tallassee
John Mason Kimmey	Anniston
Samuel M. Kirkpatrick	Selma
John H. Lary	Huntsville
Claud B. Lavender	Fairfield
Julius E. Linn	Birmingham
Joe H. Little	Mobile
Wilmot S. Littlejohn	Birmingham
Wm. W. Locke	Birmingham
William H. Long	Birmingham
L. R. Lonnergan, Jr.	Gadsden
Robert L. Lucas	Birmingham
Edward R. MacLennan	Opp
Webster B. Majors	Tuscaloosa
Ernest O. Majure	Wetumpka
Hobson Manasco	Carbon Hill
Herbert R. Markheim	Cullman
Carl T. Martin	Headland
Farris J. Martin	Montgomery
Henry F. Martin	Birmingham
John A. Martin	Montgomery
Harry Martz	Birmingham
Dan W. McCarn	Warrior
Oscar C. McCarn, Jr.	Birmingham
William G. McCown	Huntsville
George C. McCullough	Birmingham
James F. McDowell	Birmingham
Edward A. McEver	Gadsden
Felix J. McGraw	Birmingham
James B. McLester	Birmingham
John T. McNabb	Alabama City
Henry H. Meadows, Jr.	Montgomery
William R. Meeker	Mobile
James H. Meigs	Anniston
Paul S. Mertins	Montgomery
Nathan E. Miles	Birmingham
Donald A. Miller	Birmingham
James A. Miller	Wylam
William H. Minor	Mobile
Dobbs Minot	Eutaw
David B. Monsky	Montgomery
Irving W. Moody	Mobile
John D. Moorman	Huntsville
Benjamin Morton	Birmingham
Jewett P. Motley	Ensley
Grover E. Murphy	Birmingham
Iva G. Murphy	Brewton
John Newdorp	Montgomery
Lucian Newman	Dadeville
William Noble	Attalla
Garrold H. Nungester	Decatur
John C. O'Gwynn, Jr.	Mobile
Lester C. O'Neal	Andalusia
Hubert R. Owen	Union Springs
Harry J. Parker	Madison
Robert Parker	Montgomery
Paul H. Parker	Margaret
William C. Parsons	Birmingham
Clarence V. Partridge	Mobile
Thomas H. Patton, Jr.	Tuscaloosa
William B. Patton	Birmingham
Richard R. Patterson	Birmingham
A. I. Perley	Lafayette
Alton R. Perry	Mobile
Ezra B. Perry	Bessemer

Edgar B. Pitts	Fairfield
Edwin H. Place	Birmingham
John B. Plum	Anniston
Louis C. Posey	Birmingham
Lance C. Price	Florence
Daniel R. Ramey, Jr.	Hartselle
James D. Rayfield	Jacksonville
Mack J. Roberts	Mobile
Edward B. Robinson, Jr.	Fairfield
Jose M. Rodriguez	Clayton
Herman L. Rosen	Montgomery
Robert E. Rothermel	Montgomery
Clyde C. Rouse	Mobile
Mason C. Rowe	Dothan
Socrates N. Rumpanos	Mobile
Mark M. Schapiro	Ensley
Edgar M. Scott, Jr.	Birmingham
William L. Sellers, Jr.	Mobile
Dawson Shamblin	Tuscaloosa
J Roscoe Shamblin	Tuscaloosa
Arthur M. Shelamer	Athens
James B. Shelton	Bessemer
Samuel W. Shelton	Montgomery
John T. Sheppard	Gadsden
Harold E. Simon	Birmingham
S. Paul Simpson	Alabama City
Wyatt C. Simpson	Gadsden
D. Driver Smith	Birmingham
Gordon R. Smith	Ozark
Henry R. Smith	Birmingham
Merle E. Smith	Parrish
Virgil D. Smith	Leeds
David B. Snelling	Eutaw
James S. Snow	Birmingham
George K. Spearman	Anniston
Randolph H. Spitzberg	Mobile
William H. Spruell	Russellville
Aubrey A. Stabler	Greenville
Warren C. Stephens	Mobile
J. Leslie Taylor	Mobile
Eldred B. Teague	Talladega
Gerald H. Teasley	Athens
S. Ralph Terhune	Birmingham
Francis M. Thigpen	Montgomery
Benjamin F. Thomas	Auburn
Landon Timberlake	Birmingham
John M. Townsend	Birmingham
Alfred J. Treherne	Atmore
J. Frank Trucks	Birmingham
James W. Underwood	Russellville
Thomas E. Van Sant	Piedmont
Samuel P. Wainwright	Birmingham
George W. Warrick	Birmingham
William D. Warrick	Birmingham
J. Harold Watkins	Montgomery
Clarence K. Weil	Montgomery
Harry Weiner	Birmingham
Oliver W. Welch	Fairfield
N. A. Wheeler, Jr.	Lafayette
William E. White	Anniston
William W. White	Center
Arthur F. Wilkerson	Marion
Howard B. Williams	Birmingham
Charles H. Wilson	Fairfield
Joseph D. Wilson	Birmingham
William E. Wilson	Russellville
Samuel W. Windham	Geneva
Lochlin M. Winn	Birmingham
Arthur A. Wood	Mobile
Paul S. Woodall	Birmingham
Lawrence S. Woodley	Andalusia
Gerald G. Woodruff	Anniston
Arthur W. Woods	Birmingham
Thomas B. Woods	Dothan
S Buford Word	Birmingham
Duward O. Wright	Fort Payne
Allen C. Young	Bessemer
Alfonse H. Zieman	Mobile

2. *Licensed physicians serving interneships or residencies*—21

Martin N. Anderson	Birmingham
Rhett G. Barnes	Birmingham
Brooks H. Bishop	Birmingham
William A. Camp	Fairfield
Beamon S. Cooley, Jr.	Birmingham
Marshall Eskridge	Fairfield
Paul F. Hutchins	Fairfield
John Allen Jones, Jr.	Opelika
Bennett J. LaCour, Jr.	Birmingham
Irl R. Long	Tuscaloosa
Harvey M. Lowry	Leeds
Hugh M. Mason	Fairfield
Thomas A. Melton	Atmore
George W. Newburn, Jr.	Fairfield
Edward J. Peterson	Birmingham
Clair L. Swann	Birmingham
Samuel B. Thompson	Fairfield
Samuel H. Wallace, Jr.	Birmingham
James L. Wittmeier	Birmingham
William G. Wood	Fairfield
Otis W. Yeager	Birmingham

3. *Internes and residents called prior to licensure*—21

Robert C. Bibb	Huntsville
James T. Bryan	Fairfield
Samuel W. Caldwell	Birmingham
Michael R. Cronen	Birmingham
William T. Daniel	Birmingham
Frederick A. Dowdy	Birmingham
William O. deVlaming	Birmingham
Jos. W. Eversole	Vincent
Hal Ferguson	Fairfield
Robert G. Goodall	Birmingham
Robert B. Hagood, Jr.	Fairfield
John C. Hope, Jr.	Birmingham
Henry C. Hudson	Birmingham
Sam Jones	Birmingham
Sam Levine	Birmingham
Cecil E. Love	Birmingham
Lamb B. Myhr	Birmingham
Abner B. Riser	Birmingham
James L. Seldon, Jr.	Faunsdale
George R. Steinkamp	Birmingham
William P. Tice	Birmingham

4. *Honorably discharged*—3

Clive V. Hendrix	Oneonta
Randolph N. Long	Selma
Moody Walker	Huntsville

5. *Physicians who have died while in military service*—4

Josiah D. Bancroft	Birmingham
Frederick Page Boswell	Montgomery
John M. Clack	Fairfax
William Lee Tucker	Cullman

MEMBERSHIP OF THE ASSOCIATION

Including those in service identified with the organization at time of call, the membership of the Association as enrolled April 1, 1943 is 1,598—twenty-two more than the number listed in my last annual report to you. The total number of physicians now on the rolls of the Association, including those on active duty with the armed forces of the country, is 1,864. A year ago the enrolment was 1,845. Of the 1,864, eighty-five and seven-tenths per cent (85.7%) are members of the Association. Fifteen (15) county medical societies have a membership of 100 per cent. They are Bibb, Butler, Chilton, Clarke, Cleburne, Coffee, Conecuh, Coosa, Franklin, Lawrence, Perry, Shelby, Tallapoosa, Washington and Winston.

DEATHS

Thirty-five members of the Association have died since our last meeting: Life Counsellors J. S. Crutcher and A. B. Price; Active Counsellor George S. Graham; and members J. D. Bancroft, W. T. Bayles, C. C. Bowden, J. A. Branyon, E. T. Camp, H. G. Camp, J. M. Clack, G. A. Dennis, L. L. Dismukes, H. T. Donovan, W. B. Doughty, J. T. Gaines, C. H. Gillespy, S. E. Grant, E. C. Hagler, M. L. Hinds, H. W. Howell, J. E. Lindsey, J. M. Lindsey, H. F. McLaurine, C. H. McMillan, R. L. Montgomery, I. D. Nolen, J. S. Norton, W. B. Palmer, C. C. Perdue, A. J. Sanders, H. W. Stephenson, Eugene Thames, J. A. Thorn, W. L. Tucker and C. J. Vaughn.

THE AMENDED CONSTITUTION

In keeping with the wishes of the Association, expressed over several years and more specifically at the annual session a year ago, the Constitution of our organization amended through the 1942 meeting was published in the July 1942 issue of the State Medical Journal. It will be necessary to adopt it as a whole as amended, and this action will constitute an item of business for day after tomorrow's session.

STATUS OF COUNSELLORS-ELECT

At the last meeting of the Association, seven members—W. J. Barber, C. N. Carraway, Earle Conwell, C. G. Godard, G. O. Segrest, J. W. Simpson of Birmingham, and F. C. Wilson—were elected Counsellors. All have qualified fully as required by the Constitution and should be added to the Roll of Active Counsellors on Thursday morning.

PRESIDENTIAL APPOINTMENTS

President Searcy reappointed A. A. Walker and G. O. Segrest delegate and alternate respectively to the 1943 and 1944 sessions of the House of Delegates of the American Medical Association; and named B. W. McNease successor to Merle Smith as Vice-President of the Northwestern Division, Dr. McNease to serve until this meeting of the Association, the vacancy to be filled then by election. Dr. Smith is in service.

On the committees of the Association, he made the following appointments:

Public Relations—B. F. Austin, to succeed John A. Martin, in service; and G. O. Segrest to succeed himself.

Mental Hygiene—C. M. Rudolph.

Maternal and Infant Welfare—T. M. Boulware.

Cancer Control—H. M. Simpson, reappointed.

Prevention of Blindness and Deafness—Lucien Brown to succeed himself.

Postgraduate Study—Ralph McBurney for a further term.

Accidents and Industrial Hygiene—Earle Conwell, reappointed.

Archives and History—M. Y. Dabney to succeed himself; G. F. Walsh, an additional member, and E. B. Carmichael, an associate member.

Physician-Druggist Relationships—R. E. Cloud, succeeding N. G. Clark, deceased.

APPOINTMENTS TO BE MADE

Committeemen whose terms expire with this meeting are J. R. Garber (Public Relations), E. S. Sledge (Mental Hygiene), Hughes Kennedy (Maternal and Infant Welfare), J. P. Chapman (Cancer Control), B. F. Jackson, Sr. (Prevention of Blindness and Deafness), C. K. Weil (Postgraduate Study), C. H. Ford (Accidents and Industrial Hygiene), S. A. Gordon (Archives and History), and W. M. Salter (Physician-Druggist Relationships). It will be a responsibility of the next president to name their successors and to appoint a delegate and alternate to the American Medical Association for the 1944 and 1945 sessions of that body to succeed Lloyd Noland and Fred Wilkerson respectively whose terms will expire with the current year's meeting.

OFFICERS TO BE ELECTED

Officers to be chosen at this session are a president, a vice-president for the Southeastern Division, a vice-president for the Northwestern Division to succeed Merle Smith who is in service; two censors for five years to succeed Fred W. Wilkerson and French Craddock whose terms have expired; and fifteen counsellors.

FINANCE

The accounts of the Association for the period January 1-December 31, 1942 have been audited by Crane, Harper and Wilson of Montgomery and the audit constitutes the concluding pages of this report.

CRANE, HARPER AND WILSON
CERTIFIED PUBLIC ACCOUNTANTS
First National Bank Building
Montgomery, Ala.

Montgomery, Ala., Feb. 23, 1943.

Officers and Members,
Medical Association of the State of Alabama,
Montgomery, Alabama.

Gentlemen:

In accordance with our agreement, we have completed the examination of the cash accounts of the Treasurer of the Medical Association of the State of Alabama for the calendar year 1942.

We have traced all recorded cash receipts from the Cash Book to the record of deposit of funds as indicated by bank statements on file in your office.

All cancelled checks were examined as to amounts, signatures and endorsements. Disbursements through the bank account were verified by

examination of vouchers and their approved supporting documents.

The cash on deposit at December 31, 1942, amounting to $6,655.49, as detailed at the bottom of Exhibit "A" attached, has been verified.

On February 22, 1943, in the Safety Deposit Vault of the First National Bank of Montgomery, Alabama, in company with Dr. Douglas Cannon, we made an examination of the United States Savings Bonds of a maturity value of $10,00.00, being bonds of Series "C", numbered D459763 C to D459782 C, inclusive, each of a maturing value of $500.00 and maturing ten years from date of issue, October 1, 1938. All bonds were issued in the name of "The Medical Association of the State of Alabama, a Corporation, 519 Dexter Ave., Montgomery, Alabama."

Your attention is directed to the fact that on December 31, 1942, these bonds had a redemption value of $410.00 each or an aggregate increase in value of $700.00 over the original purchase price.

We wish to call your attention to the fact that the interest rate on Savings Deposits was reduced to one per cent in 1942, and to suggest that you might wish to convert the present Savings Accounts into investments that would offer a greater yield.

Respectfully submitted,
Crane, Harper & Wilson,
By H. C. Crane, C. P. A.

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA
SUMMARIZED STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE CALENDAR YEAR 1942

Exhibit "A"

Balance January 1, 1942:			
First National Bank, Montgomery, Alabama			
Current Checking Account		$ 1,435.84	
Savings Account #27565		1,102.00	$ 2,537.84
First National Bank, Mobile, Alabama			
Savings Account #108691			2,684.81
Total Cash at January 1, 1942			$ 5,222.65
Cash Receipts:			
Association:			
Counsellors	$ 980.00		
County Dues	5,320.00		
Roster of Association	3.00		
Interest on Savings Accounts	50.21		
Miscellaneous	1.00	$ 6,354.21	
Journal:			
Advertising	$ 3,991.10		
Subscriptions	30.00		
Journals	1.00		
1942 Division of Credit	392.28	4,414.38	10,768.59
			$15,991.24
Cash Disbursements:			
According to detail hereto attached as Exhibit "B"			
Association		$ 3,306.43	
Journal		6,029.32	9,335.75
Balance December 31, 1942			$ 6,655.49
Consisting of:			
First National Bank, Montgomery, Alabama			
Current Checking Account	$ 2,818.47		
Savings Account #27565	1,123.07	$ 3,941.54	
First National Bank, Mobile, Alabama			
Savings Account #108,691		2,713.95	
			$ 6,655.49

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

DETAILED STATEMENT OF CASH DISBURSEMENTS

FOR THE CALENDAR YEAR 1942

Exhibit "B"

Association:			
Salary—Dr. D. L. Cannon			$ 600.00
Printing, Stationery and Office Supplies			141.67
Postage			83.00
Expense of Division and Committee Meetings			164.43
Expense of Annual Meeting			
Badges	$ 45.55		
Programs	137.62		
Projection	25.00		
Public Address System	10.00		
Exhibit Space	18.00		
Lecturer	100.00		
Miscellaneous	16.22		352.39
Expense to American Medical Association			75.00
Contribution to Division of Medical Extension, Tulane University			666.66
Printing and Mailing Transactions Annual Meeting			879.95
Premium on Treasurer's Bond			50.00
Auditing Expense			50.00
Rental on Safe Deposit Box			6.00
Expense, Vice-President, Merle E. Smith			126.83
Refunds of Dues			38.00
Repairs to Adding Machine			7.50
Expense, Treasurer Woman's Auxiliary, Mrs. George Denison			50.00
American Medical Association Directory			15.00
			$ 3,306.43
Journal:			
Salaries:			
Dr. D. L. Cannon, Managing Editor	$ 399.96		
Dr. W. W. Wilkerson, Editorial Assistant	300.00		
Luette Kilpatrick, Clerical Assistant	420.00		1,119.96
Printing, Addressing and Mailing Journals			4,909.36
			6,029.32
Total Disbursements			$ 9,335.75

Committee of Publication

Douglas L. Cannon, Chairman

The monthly circulation of the Journal is 1,550 copies, 1,370 of which go to members of the Association, 71 to exchanges, 36 to advertisers and advertising agents, and the remainder to non-member subscribers and the files of the Association. Circulation shows a present decrease of 200 for the reason that it has not been found possible to follow all members who are in service and whose addresses are subject to rather frequent change.

Receipts from advertising in the calendar year 1942 amounted to $4,383.38—an increase of $236.93 over 1941.

Cost of printing and distributing the Journal in 1942 totaled $4,909.36. Thus, except for the comparatively small sum of $525.98, the publication was self sustaining, and only in the amount stated was it necessary to encroach on dues paid by members.

Fourteen hundred-fifty (1,450) copies of the 1942 Transactions of the Association were published and distributed to all members at a cost of $879.95.

Committee on Public Relations

B. F. Austin, Chairman

When Dr. John A. Martin, chairman of this committee, was called to active duty with the Army, President Searcy appointed Dr. B. F. Austin to serve in that capacity.

The principal activity of the committee has been devoted to legislation, and several bills of interest to physicians have been prepared for presentation to the Legislature when in session. The following bills have been approved by the State Committee of Public Health:

1. To amend the law requiring premarital examinations to include both persons who are to be married.

2. To increase the appropriation for care of patients with tuberculosis so that the state subsidy to tuberculosis hospitals will be $1.00 per diem and treatment clinics may be established.

3. To provide for further control of the venereal diseases by the repression of prostitution, examination of persons suspected of having a venereal disease or having been exposed to a venereal disease, and to provide for the blood testing for syphilis of all persons residing in Alabama.

4. To promote the prevention and cure of cancer.

5. To provide an annual appropriation of $455,000 for the generalized public health program, and $50,000 for emergency expenses, conditional upon the approval of the governor.

6. To provide for the control of the use of poisons and gases that are harmful to human beings in the destruction of insects, vermin, rodents or other pests.

7. To amend sections of the 1940 Code to simplify and improve registration of vital records.

8. To create and establish a four-year medical school in Alabama.

9. To amend sections of the 1940 Code so as to clarify and improve the law relating to medical technicians.

10. To regulate the operation of ambulances for the purpose of protecting the public health.

Since the demand for qualified nurses has become so great on account of the war effort the competition of industry for their services has grown so keen that there is not adequate nursing service available at our hospitals. So many hospitals with their present incomes cannot compete with industry in salaries paid to nurses. It appears that the services of nurses' aids could be as readily used for industrial clinics as in the hospitals that provide such services for civilians.

Because of the increasing calls for services made upon the physicians and the further depletion of their ranks efforts have been made to obtain cooperation of the public in relieving the situation as much as possible. Newspaper articles have been published and radio talks made urging the people to conserve the time and energies of the physicians as much as possible.

RECOMMENDATIONS

1. That all legislation approved by the State Committee of Public Health receive active support of the members of the Association.

2. That industrial organizations be urged to utilize the service of nurses' aids and others as much as possible to relieve graduate nurses of non-professional activities.

3. That the Association and county medical society officers and committees continue to publicize the need for cooperative relationships between physicians and the public.

Committee on Mental Hygiene

Frank A. Kay, Chairman

The war has brought to your Committee on Mental Hygiene added responsibilities and opportunities but diminished assets and machinery to meet them. Alabama has never had but the most meagre facilities for its psychiatric needs except perhaps in its public institutions. In these, inadequate appropriations, numerically deficient personnel and crowded buildings have unquestionably limited therapeutic results. Almost all of Alabama's psychiatrists in private practice are now in the armed forces. The initial efforts to establish even feeble out-patient psychiatric clinics have found continuation impossible. No new projects can be considered, no matter how badly needed. It is now a question of handling routine matters in as an efficient and comprehensive a manner as possible. This we have tried to do. Suggestions from individuals and groups, requests for information and advice, communications from state and national agencies have all been handled promptly.

The individual members of this committee have been called upon to give talks to lay and professional groups, on civilian morale, on the prevention of emotional disorders in school children, on the effects of war on civilian mental health and the like. These things we have done without hesitation or refusal. We continue to maintain our contacts with education through the Alabama Mental Hygiene Society and the Alabama Educational Association.

RECOMMENDATIONS

We urge the members of the Association to lend all needed support to the movement for a four-year medical school. We believe such a school will be the beginning of a real awakening in Alabama to the needs and possibilities of psychiatry and of the psychiatric viewpoint in medicine. More and more informed and able physicians realize that patients are persons and that emotions are contributing etiologic factors in many conditions; for example, particularly, peptic ulcer, asthma, diabetes, hypertension, mucous colitis, eczema, dysmenorrhea and the like. We further realize that without contacts with young men and new ideas, we shall all inevitably deteriorate. A medical school in our State would not only advance medicine but also give psychiatry a much needed impetus.

Alabama has no adequate law nor procedure for regulating private psychiatric hospitals and boarding homes. The State Health Department has authority to inspect such places from a standpoint of sanitation but not as to psychiatric facilities and treatment. We have in Alabama one private hospital for mental disorders managed by a qualified psychiatrist. There are other places in several cities and towns of Alabama accepting psychiatric patients for care and treatment. We believe that it is wise and proper, and a duty and responsibility of the medical profession to know whether patients confined to these places are properly cared for and are offered whatever scientific medical treatment is indicated. Twenty-four states have laws aimed to protect the public

through a periodic inspection of private mental hospitals and boarding homes. Alabama Medicine, as a matter of duty and dignity, should give thought to this situation. It is this committee's opinion that all private and semi-private hospitals and boarding homes admitting and caring for psychiatric patients, including psychotic, psychoneurotic and drug and alcohol addiction types should be licensed; that such places should be required to report at quarterly intervals their admissions, dismissals and deaths, and that these places should be open at all times for inspection by a qualified psychiatrist designated by the State Board of Health, and that regular inspection of such places should be made every six months.

We recommend that the Board of Censors give consideration to this suggestion and contemplate within the near future formulating and sponsoring whatever laws are needed to make such licensing and inspection possible.

Committee on Maternal and Infant Welfare

A. E. Thomas, Chairman

The members of your Committee on Maternal and Infant Welfare during the past year have devoted their time and effort to the proposed objectives of previous reports. Our chief problem has been to hold intact the organization and the clinical setup that has been established in Alabama.

The maternal mortality rate for Alabama has shown a decided downward trend during the past five years, dropping from a rate of 63 per 10,000 live births to 39 in 1942, in spite of a 16% increase in births. To be exact, there were 62,945 births with 409 maternal deaths in 1938. In 1942, there were 72,514 births with 292 maternal deaths, the lowest of record in the state of Alabama.

To amplify the above statement still further, there were actually 10,000 more babies born in 1942 than in 1938, yet there were 117 fewer deaths.

The causes of the deaths of these mothers have maintained the same percentage during the last five years; namely, infection, toxemia and hemorrhage holding the first three places.

Approximately 85% of our doctors are doing 67% of these deliveries. It has been said that obstetrics is commanding the dignity and respect that other specialties maintain. A glance at the program of this meeting would cause one to have considerable doubt. It would seem that a branch of medicine that is being practiced by 85% of the doctors is entitled to, first, a section of its own, and, second, certainly a meager representation by possibly at least one paper at a general session.

With the tremendous number of doctors in the armed services from the state of Alabama, it is impossible to carry out a fixed program for maternal welfare; however, your committee feels that the clinical organization should not be allowed to disband during this emergency because, statistically speaking, Alabama has made the greatest progress in the last five years since the inception of this program. We would like to urge that wherever possible the clinicians continue to work in the maternity clinics even though it may mean a certain amount of sacrifice, because the large majority of cases attending the maternity clinics will be delivered by midwives.

RECOMMENDATIONS

First: That there be a section on obstetrics at each annual meeting, beginning in 1944.

Second: That there be one paper on obstetrics at one of the general sessions at each annual meeting beginning in 1944.

Third: That there be one paper on obstetrics at each district meeting.

Fourth: That there be a paper on obstetrics at least once a year in every county medical society.

We would like to call to your attention that these recommendations have been made in previous reports, and ask for your cooperation in carrying out this program. We would like to take this opportunity to thank every doctor who has participated, and we are looking for the time when Alabama will head the list with the lowest maternal mortality rate of any state in the nation.

Committee on Cancer Control

J. P. Chapman, Chairman

Cancer continues to take its heavy annual toll of lives. In 1942 its score in the United States was 160,000, while nearly 2,000 lost their lives in the state of Alabama, and of this number one per cent were under the age of 15 years. There are at least 6,000 living victims of the disease, awaiting the inevitable outcome. Cancer occupies the second place in the long list of causes of death, and is outranked only by heart diseases.

EDUCATION

The work of this committee during the past year has consisted largely of ground work plans for an extensive educational campaign. The objectives will be to popularize the early indications of cancer, so that every one will be on the alert for symptoms that may direct them to their family physician for an examination.

THE WOMEN'S FIELD ARMY

The medical profession's greatest ally in this educational campaign is the Women's Field Army, which is the State Division of The American Society for the Control of Cancer. We are indeed fortunate in enlisting the services of Mrs. Ray Meade, of Birmingham, as the State Commander of the Alabama division of the Women's Field Army. She has displayed superb ability in this work. With enthusiasm she has organized 47 of the counties into active units for the enlistment drive, nationally designated for the month of April. The publicity of this campaign, as well as the great educational value, should bring good returns in the "Dollar Membership Enlistments" during this month. The expenses for this campaign were taken care of through a grant of $600 from the State Board of Health. We feel now that a permanent organization is assured to cooperate with the cancer control agencies in their educational effort in the State.

THE CANCER BILL

Realizing that education alone will not control cancer, steps have been taken to translate this

effort into actual service. A bill has been prepared under the supervision of the State Board of Health and the Cancer Control Committee to provide State funds for adequate treatment of indigent cancer patients, who otherwise would be deprived of a chance to live. This bill will be presented at the May session of the State Legislature, and it is earnestly hoped that the medical profession will encourage its passage.

There are certain features of this bill which need to be emphasized:

1. A continuous educational campaign, to inform the public of the early indications of cancer, and to encourage prompt examination to determine the presence of cancer.

2. The State Board of Health will have the responsibility of receiving and disbursing funds made available, and also serve as a clearing house of all applications for state-aid treatments. This will enable the central board to co-operate with all cancer control efforts.

3. Each county medical society will have a cancer control committee to assist in investigating and passing upon the merits of the applicants, and to work in co-operation with the welfare agencies in arranging for the transfer of patients to designated cancer clinics.

4. Recognition will be made of groups or clinics or hospitals qualified under the requirements of the American College of Surgeons to administer treatment of cancer. It will likewise encourage the increase of facilities for treating cancer in the State.

CANCER CLINICS

With the passage of such a bill, the Cancer Control Committee will have the responsibility of canvassing the state regarding existing facilities, and to effect some arrangement with these clinics or medical centers regarding a working basis for providing cancer therapy. Groups of physicians, adequately equipped and prepared, may organize themselves into tumor clinics, and, in compliance with the standard of requirements, will be recognized as cancer clinics. The general plan for financial arrangement will be based on actual cost.

Alabama ranks very low in cancer control work but the passage of the cancer bill will enable us to develop a program along with several other states now outstanding in this work. It is the desire of this Cancer Control Committee that each county medical society contact its representatives, asking for a definite commitment in this effort to conquer the second greatest destroyer of lives in our country and our State.

Committee on Postgraduate Study

Ralph McBurney, Chairman

When the committee rendered its annual report at the 1942 meeting of the Association, courses in gynecology and non-operative surgery were well under way, sixteen centers having been covered, with a total of two hundred and eleven physicians attending.

At that time our country had been in the war less than five months, with a minimum number of our membership on active duty with the armed forces. Within a short period the picture changed rapidly and by January of this year two hundred and forty-six physicians were on active duty.

This, and further depletion of our membership, gas rationing and the increased load of work and responsibility assumed by members carrying a heavy burden on the home front markedly affected the program of postgraduate instruction, not only curtailing attendance but making it practically impossible for the Department of Graduate Medicine of Tulane University to supply the adequate number of instructors or to obtain transportation for a few available ones. In fact, by August, conditions became so acute that Dr. Kostmayer, Director of the Department of Graduate Medicine of Tulane University, in a letter to the chairman of the committee indicated it was evident that attendance on the extension teaching courses would rapidly dwindle to the point where continuation of them would not be justified. He stated, however, "I, nevertheless, believe that we can continue until this has been demonstrated by experience."

When the last annual report was rendered, the instructional staff for and attendance at the instructional centers were rapidly becoming depleted and the restlessness of the war situation was seriously interfering with the entire program. This condition reached such stage of acuteness by October 1942, that Dr. Kostmayer wrote Dr. Austin, State Health Officer, the following letter, with a copy to the committee:

Dr. B. F. Austin, Health Officer
Department of Public Health of the State of Alabama
Montgomery, Alabama
Dear Dr. Austin:

The probability of successful extension teaching in Alabama at this time, and under gas rationing conditions, is very remote. I believe we will be able to give an occasional course here and there, but I am certain that month by month effort will be a waste of very valuable time, and, of course, of financial loss. I, therefore, suggest that contributions to our budget for extension teaching in Alabama by the Department of Public Health of the State of Alabama be discontinued until more normal times. This meets with the approval of Mr. Barry C. Smith of the Commonwealth Fund.

In this connection, I wish you to know that this Division can and will gladly fill in or completely make up programs for county or district medical society meetings.

Sincerely yours,
Signed: H. W. Kostmayer, M. D.
Director.

Under these conditions it eventually became necessary to discontinue the entire program.

The dwindling attendance and the inability of the teaching staff to carry on the work of instruction in more centers, under the conditions named, are reflected in the following summation of the accomplishments from April to September 1942, which period marked cessation of all instruction.

Dothan meeting was completed in March and April, 1942, with 6 counties covered, 74 notices mailed and 10 in regular attendance.

Union Springs meetings were held in May and June, 1942. Five counties and a part of a 6th were covered. Sixty notices were mailed out, but the only ones in regular attendance were 5 from Bullock County.

Troy meetings were held in August and September, with only three instructors going out. Six counties were covered. Fifty-four notices were mailed out, with about 8 in regular attendance.

The committee deeply regrets the curtailment of this organized form of postgraduate instruction, for which there is apparently no substitute under existing conditions. However, it offers the following suggestions:

Renewed interest and activity within the county societies in fostering instructive programs by local members.

That a considerable portion of the papers presented be of a clinical nature, and that some portion of each program be devoted to the presentation of case histories and findings of any extremely interesting or unusual case under observation of members.

There are many able and experienced specialists within the Association who are not on active duty with the armed forces. Some would be willing to travel a minimum distance to participate in county society programs. With this possibility in mind it is recommended and urged that specialists within our group who are willing to contribute their services in this particular, notify Dr. Cannon, giving the subjects upon which they may lecture, in order that a list of lecturers and their subjects may be prepared and made available to societies within their district, the lecturers responding upon invitation from the respective society within his area.

The Department of Graduate Medicine of Tulane University offers resident postgraduate courses each spring, in medicine and in obstetrics and gynecology, each course lasting six days. Tuition and registration fees are exceedingly nominal.

The Health Department of the State of Mississippi subsidizes the sending of some physicians to Tulane for these courses. To a certain degree Alabama might do likewise.

Since the annual appropriation of $1000 by the Association and $1500 by the State Health Department for postgraduate study is not needed for our former program, the committee recognizes the probability of working out a system whereby physicians in each district might be given the opportunity of attending the Tulane courses with a part or all of their expenses, for this short period, being paid from the same or like appropriations mentioned. The physician, so chosen, could be asked in return for such privilege, to hold a series of several meetings at a strategic center, passing on the information gained to members within a given area.

If this suggestion meets with favor the committee, meeting with our State Health Officer, will endeavor to work out a program of this nature, making information respecting it available to the Association members through the Journal.

The committee recognizes the loss of the valuable services and wise counsel of one of its members, Dr. Clarence K. Weil, who is now on active duty with the armed forces, and who has been a member of the committee since its inception in 1936. Since the remaining members hope to see some worthwhile program of postgraduate activity worked out in lieu of the organized courses, it hopes, even in the light of the present emergency, to be maintained and entrusted with a continuation of its responsibility. It, therefore, requests that our incoming president appoint someone to fill out the unexpired term of Dr. Weil.

Committee on Accidents and Industrial Hygiene

C. H. Ford, Chairman

As chairman of your Committee on Accidents and Industrial Hygiene, I am pleased to report that we have been in close contact with the Division of Industrial Hygiene, National Institute of Health, and U. S. Public Health Service and have also had frequent conferences with Captain E. H. Place, Director of the Division of Industrial Hygiene of the State Department of Public Health.

One of his many duties is the study of accidents and accident hazards, absenteeism, and health conditions around the larger plants over the State.

We presented to the State Health Officer, Dr. B. F. Austin, a bill which would make it unlawful for any person to conduct, maintain, or operate an ambulance except under the immediate supervision and direction of a person holding a first aid certificate.

This bill was presented to the Board of Censors, who agreed to sponsor such if the first aid certificate had been presented by the American Red Cross or U. S. Bureau of Mines.

Committee on Four-Year Medical School

W. D. Partlow, Chairman

Immediately after the annual meeting of the Association one year ago in Montgomery, the President, acting under the approval of this Association and the State Board of Censors, increased this committee in numbers from five to ten members, including the names of the undersigned.

Throughout the year your committee has been active. Our first meeting was for a conference with our then Governor-Elect Chauncey Sparks. All members were present except Major J. P. Collier, absent in the Army. We presented to Governor Sparks a tentative draft of a bill proposing to create a four-year medical school. The committee was delighted to find Governor Sparks enthusiastically in favor of the establishment of a four-year medical school in Alabama. After a very satisfactory meeting and conference with the Governor, and after receiving some suggestions from him, a redraft of the bill was made.

A second meeting of the committee was called after Governor Sparks had assumed the office of Governor for the purpose of conferring with him and for the purpose of appearing before a joint meeting of the Public Health Committee and the Public Welfare Committee of the Legislature. Additional suggestions were received from the Governor which were incorporated in a second re-

draft of the bill. The bill had already been submitted to Honorable Senator Gordon Madison of Tuscaloosa County, an eminent lawyer, for careful checking. The bill was, in accordance with suggestions made by Senator Madison, changed so as to conform to constitutional provisions since the University of Alabama is conducted under the constitution.

Our bill as submitted to the above mentioned legislative committees was unanimously approved by the joint meeting of these committees.

For further appearance before legislative committees, the general medical school committee agreed upon a subcommittee for convenience, composed of Doctor B. F. Austin, State Health Officer, Doctor John Blue of Montgomery and the Chairman. Later this subcommittee appeared before the Finance and Taxation Interim Committee of the Legislature and presented our bill, which legislative committee gave us a sympathetic and interested hearing. Without knowing just what action was taken by that Finance and Taxation Committee, we were given to feel that the members of that committee generally recognized the imperative necessity for the establishment of a four-year medical school for the reasons presented to them by the subcommittee, and for the reasons already recognized by this intelligent group of legislators.

Although a canvass had been made of the profession of the State four years ago, the committee made a second canvass and found the medical profession of the State enthusiastically back of a four-year medical school bill. The various county medical societies were requested to contact their representatives in the legislature prior to the session to meet in May.

The essential provisions of the medical school bill are:

First: The naming of the medical school.

Second: The creation of a building commission whose duty it would be to locate, build and equip the four-year medical school, and, when the commission's work might be sufficiently completed, to turn the properties over to the Trustees of the University of Alabama.

Three: Providing for the appropriation of one million dollars from the State Treasury for the purpose of building and equipping the medical school.

Four: Creating an advisory board of physicians with whom the Board of Trustees of the University are required to consult freely on all matters pertaining to conduct of the medical school, and with which the Building Commission is to consult as to locating, building and equipping such medical school.

Five: The appropriation of three hundred and fifty thousand dollars per annum for the maintenance and conduct of the medical school.

Six: To provide a scholarship of $150.00 for each of the sixty-seven counties of the state of Alabama, and to provide requirements and methods for application for these scholarships.

Seven: To authorize fully the Trustees of the University of Alabama to conduct such medical school and to limit all appropriations made for building and equipment and for maintenance to expenditure exclusively for the purposes for which the appropriations are made, and not to be diverted to any other services rendered by the University of Alabama, under any circumstances.

The committee has felt tremendously reassured by the practically unanimous feeling among the profession, the lay people, and, so far as it has been able to ascertain, from the members of the legislature, and especially the support of the Governor, in its effort to establish a four-year medical school in Alabama.

It is hoped by the committee that the members of the State Medical Association will continue its enthusiastic support as a whole and through the various county societies in support of the efforts of the committee representing the Association until a four-year medical school of the best type in the country may be realized and may become a fact in active service to the people of this state.

Respectfully submitted:

W. D. Partlow, Chairman	B. F. Austin
E. V. Caldwell	J. H. Blue
J. P. Collier	Emmett B. Frazer
S. A. Gordon	P. P. Salter
S. L. Ledbetter	A. M. Walker

Committee on Archives and History

M. Y. Dabney, Chairman

At the last meeting this Association was generous enough to allocate to our committee $500.00 toward the compilation of a medical history of Alabama. All of us had high hopes of using the writers' section of the WPA and of making a creditable start by this time. However, the accelerated speed of the preparations for prosecuting the war, and the withdrawal of funds from the WPA have made the procurement of inexpensive literary assistance impossible.

We sincerely trust that the offer of funds will remain good during the postwar rehabilitation so that this glorious history of the medical men of Alabama may be preserved in a published volume.

During the past twelve months, the associate member of our committee, Dr. Emmett B. Carmichael of the State University, has published in the Annals of Medical History a paper on William Owen Baldwin, a distinguished surgeon, president of the American Medical Association, and founder and first president of the First National Bank of Montgomery.

Committee on Physician-Druggist Relationships

R. E. Cloud, Chairman

This committee, through publications in the Journal, has called the attention of the profession to federal and state laws bearing on the sale and dispensing of habit-forming and dangerous drugs, and the responsibilities doctors and druggists share in this regard.

It has established cooperative relations with that committee of the Alabama Pharmaceutical Association having identical objectives. As a result of these contacts and consideration of what would constitute proper and fruitful activities, it recommends that:

(1) The doctors' committee be composed of one physician from each of the larger cities of the state, consulting and working with local druggist members appointed by the Pharmaceutical Association. After a period of trial and development, the arrangement to be extended throughout the State.

(2) Local druggists be invited to furnish the county societies involved with at least one program a year. This meeting to be attended by both doctors and druggists, followed by free discussion and a report of the meeting or meetings published in the State Journal.

(3) A copy of the Journal be sent regularly to the Secretary of the Alabama Pharmaceutical Association, Thomas Jefferson Hotel, Birmingham, Ala.

The State and National Pharmaceutical Associations are much concerned over the induction of pharmacy students into military service. Since there is already a shortage of registered pharmacists in Alabama, the situation begins to grow serious. In view of the foregoing, this committee feels that the future protection of health will be seriously jeopardized by marked reduction in the number of regular yearly additions to the ranks of pharmacy graduates Our attention is also called to the Pharmacy Corps Bill now pending in Congress. It is asserted that the pharmaceutical service afforded in the Army is not comparable to that received by the civilian population, such services being performed in many cases by men with ninety days' training and, at times, by those with no pharmaceutical training. Further, that the measure is designed to relieve doctors in the service of duties connected with procurement, storage, testing, preservation and distribution of medicines and medical supplies.

Miscellaneous Business

The following resolutions were introduced:

A RESOLUTION
Introduced by Dr. D. L. Wilkinson

Whereas, In these times of stress, the physician is working overtime, and, even though many physicians are old or crippled or diseased, they are still trying to carry on their slogan, the public must be served, therefore be it

Resolved, by the Medical Association of the State of Alabama:

First, that all civil authorities in Alabama be respectfully requested, for the duration, to change, alter or otherwise suspend all laws, rules and regulations whereby physicians are hampered in their work, arrested and fined for trivial traffic law violations, such as parking overtime, passing stop signs, et cetera. No request is made for reckless driving, accidents or speeding, but parking temporarily in forbidden zones, turning without going to street corners, et cetera.

Second, that arrests for these trivialities can have no purport in law now, with the scarcity of cars, except to fill the exchequer. They hamper the physician in every way in the expeditious discharge of his duties, his thinking and in the thoroughness of his work. Upsetting time schedules and the nerves of physicians may result in death.

Third, that the Medical Association of the State of Alabama, composed of law abiding physicians, hereby pledges itself not to abuse these privileges.

Fourth, that a copy of these resolutions be furnished the press.

AN ENDORSEMENT OF THE WOMEN'S FIELD ARMY
Presented by Dr. J. P. Chapman

The disease of cancer, in less than half a century, has steadily increased until now it ranks second among the causes of death. Last year 160,000 deaths occurred in the United States, more than one-half the number of deaths resulting from all the wars of this country. This forcefully emphasizes the significance of this ravaging disease and adds impetus to our vigorous efforts in its control. The fight against cancer must be continued through the combined endeavors of two agencies, educational program and therapeutic measures. Full appreciation must be given the organized efforts and sustained educational program of the American Society for the Control of Cancer, in its dispelling ignorance, fear and superstition, and in disseminating helpful knowledge about this dreaded disease. In this respect, the state division of this national society, known as the Women's Field Army, by its enthusiastic and tireless efforts, its intense interest, its self-sacrificing spirit, its resolute courage, has contributed immeasurably to this educational campaign.

In Alabama, we have an active and vigorous division of the Women's Field Army under the leadership of Mrs. Ray Meade, the State Commander. It is appropriate and fitting that the Medical Association of the State of Alabama wholeheartedly endorse the Women's Field Army, and encourage these women in every manner possible, so that the educational campaign in the fight against cancer may not only be fruitful but be the means of bringing added blessings to the citizens of our State.

Afternoon Session, Tuesday, April 20

2:00 P. M.

SECTION ON SURGERY

Dr. Frank Wilson, Birmingham, Chairman
Dr. J. A. Ferry, Birmingham, Secretary

In the absence of Dr. S. L. Ledbetter, Jr., ill in a New York hospital, Dr. Frank Wilson called the section to order.

Dr. J. E. Cameron, Alexander City, read a paper on The Perforating Peptic Ulcer which was discussed by Drs. Earle Drennen, Birmingham, J. O. Morgan, Gadsden and E. V. Caldwell, Huntsville.

Dr. J. M. Washam, Talladega, presented a paper on The Surgical Consideration of Jaundice which was discussed by Dr. J. M. Mason, Birmingham.

Dr. Chalmers Moore, Birmingham, read a paper on The Diagnosis of Brain Tumor. It was discussed by Dr. Walter E. Dandy, Baltimore.

Internal Derangements of the Knee Joint were dealt with by Dr. John Sherrill of Birmingham, and his paper was discussed by Dr. W. C. Hannon, Mobile.

Dr. Hugh Gray, Anniston, read a paper on The Treatment of Compound Fractures, and it was discussed by Drs. Earle Conwell and John Sherrill, Birmingham.

SECTION ON PEDIATRICS

Dr. John W. Simpson, Birmingham, Chairman
Dr. W. A. Clyde, Birmingham, Secretary

Dr. M. G. Neely, Fairfield, presented a paper on Infants and Overfeeding, discussed by Drs. Amos Gipson, Gadsden, and H. C. Morland, Birmingham.

Dr. C. K. Pitt, Decatur, read a paper on Rheumatic Infections in Childhood, which was discussed by Drs. Vaun Adams, Mobile, Amos Gipson, J. H. Baumhauer, Mobile, Sam Smith, Montgomery, and Ruth Berrey, Birmingham.

Drs. Clifford Lamar, John Simpson, Hughes Kennedy, Jr., and Stewart Welch, Birmingham, discussed the use of the sulfonamides in pediatrics according to the following subjects: Dr. Lamar—The Pharmacology and Toxicology of the Sulfonamides; Dr. Simpson—The Treatment of Pneumonia with the Sulfonamides; Dr. Kennedy—Sulfaguanidine and Sulfasuxidine in Intestinal Diseases; Dr. Welch—Sulfonamides in the Treatment of the Various Types of Meningitis.

* * *

At the conclusion of the afternoon's section meetings, Dr. and Mrs. Gilbert Douglas honored President and Mrs. Searcy with a tea at their home, 212 Mecca Avenue.

Evening Session, Tuesday, April 20
7:30 P. M.

SECTION ON MEDICINE

Dr. Cabot Lull, Birmingham, Chairman
Dr. R. O. Russell, Birmingham, Secretary

Dr. Carl Grote, Huntsville, reported a case of Constrictive Pericarditis which was discussed by Dr. Chas. Donald, Birmingham.

Drs. J. D. Bush, Tuscaloosa, and E. M. Mason, Birmingham, jointly presented a paper on Coccidioidomycosis which was discussed by Dr. Karl Kesmodel, Birmingham.

Dr. H. M. Simpson, Florence, read a paper on Functional Disorders of the Upper Intestinal Tract. It was discussed by Dr. J. S. McLester, Birmingham.

SECTION ON EYE, EAR, NOSE AND THROAT

Dr. E. W. Rucker, Birmingham, Chairman
Dr. B. G. Linder, Birmingham, Secretary

Dinner preceded the scientific program, with the eye, ear, nose and throat men of the State as guests.

Dr. Phil Lewis, Associate Professor of Ophthalmology, University of Tennessee College of Medicine, Memphis, illustrated External Diseases of the Eye with kodachrome slides.

Dr. A. C. Furstenberg, Dean, University of Michigan Medical School, Ann Arbor, discussed Acute Infections of the Throat, Mouth and Cervical Region.

A motion picture, Cataract Surgery, courtesy, Dr. A. D. Ruedemann, Cleveland, was presented to conclude the program.

Second Day, Wednesday, April 21
9:00 A. M.

GENERAL SESSION

President Searcy, Presiding

Dr. James E. Paullin, Atlanta, President-Elect of the American Medical Association, addressed the Association on The Contribution of American Medicine to the War Effort. He was presented to the Association by Dr. J. S. McLester.

Dr. Walter E. Dandy, Professor of Neurologic Surgery, Johns Hopkins University School of Medicine, Baltimore, discussed The Diagnosis and Treatment of Ruptured Intervertebral Discs. Dr. Chalmers Moore presented him to the Association.

The President, Dr. Harvey Searcy, introduced Dr. A. C. Furstenberg who delivered the Jerome Cochran Lecture—Objectives in Medical Education.

Miscellaneous Business

The Secretary of the Association announced vacancies as follows in the College of Counsellors:

1st. Congressional District—3: P. J. M. Acker and D. T. McCall are to be elevated to Life Counsellors; the second term of seven years of G. G. Oswalt has expired.

2nd District—3: C. G. Laslie has resigned; F. W. Pickell has changed his place of residence.

3rd. District—1: E. T. Brunson's first term of seven years has expired.

6th. District—3: H. B. Searcy is to be elevated to Life Counsellor; R. C. Hill and J. V. Howell's first term of seven years has expired.

8th District—1: W. C. Hatchett's second term of seven years has expired.

9th District—6 G. S. Graham is deceased; M. Y. Dabney, B. S. Lester, C. W. Shropshire and A. A. Walker are to be elevated to Life Counsellors; Lloyd Noland's second term of seven years has expired.

Counsellors and delegates from these districts were called to meet in the Ballroom of the Tutwiler Hotel at 7:30 P. M., Wednesday, April 21, for the purpose of making nominations to fill the vacancies.

* * *

The Jefferson County Medical Society entertained at a luncheon at the Tutwiler for members, theirs wives, and the guests of the Association.

Afternoon Session, Wednesday, April 21
2:00 P. M.

GENERAL SESSION

Dr. J. J. Durrett, Director, Medical Advisory Division, Federal Trade Commission, Washington, read a paper on Our Health and the Federal Trade Commission.

Dr. B. Groesbeck, Jr., Captain, Medical Corps, U. S. Navy, Pensacola, discussed Aviation Medicine.

Dr. O. R. Troje, Fairfield, read a paper entitled The Minority Opinion on Silicosis.

Two motion pictures concluded the afternoon's program.

Evening Session, Wednesday, April 21
8:00 P. M.

ROUND TABLE DISCUSSION

DERMATOLOGY

Dr. C. O. King, Birmingham, discussed the Differential Diagnosis and Treatment of Fungus Infections of the Skin—illustrated with slides.

Dr. A. L. Glaze, Birmingham, outlined Some Technical Office Procedures in Dermatology and Syphilology—illustrated.

Both presentations were followed by round table discussions.

GENITO-URINARY DISEASES

1. Perinephritic Abscess, led by Dr. R. M. Cothran, Birmingham.

2. Kidney and Ureteral Colic Unassociated with Calculus, led by Dr. J. U. Reeves, Mobile.

3. Ureterovaginal Fistula Following Hysterectomy, led by Dr. J. P. Robertson, Birmingham.

* * *

The President's Ball was an event of Wednesday evening, beginning at 10, at the Tutwiler Hotel, a courtesy of the Jefferson County Medical Society.

Miscellaneous Matters

During the course of the session, scientific exhibits were presented by the following:

Dr. Paul W. Shannon and Staff, Hillman Hospital
Bone and Joint Pathology

Dr. W. H. Y. Smith—State Health Department
Venereal Disease Control

Drs. D. C. Donald and Joseph W. Berry
Gunshot Wounds of the Abdomen

Drs. J. L. Carmichael and C. J. Donald, Jr.
Unusual Breast Conditions

Drs. J. W. MacQueen and J. A. Cunningham
Clinical Colored Photography

Jefferson County Board of Health
Whooping Cough in Jefferson County
Typhus Fever in Jefferson County

Dr. Charles O. King
Pictures of Skin Disorders

Dr. C. L. Yelton, T. C. I. Hospital, Fairfield
Modern Treatment of Burns—Photography

Dr. J. O. Morgan, Gadsden
Protruded Lumbar Intervertebral Disks

Drs. Stewart H. Welch, Wallace A. Clyde, J. L. Seibold, J. R. Garber and Sid W. Collier
Rh Factor

Dr. Neal Owens, New Orleans
Surgical Treatment of Burns

Dr. Hugh Linder
Extensive Surgery for Advanced Tumors

Dr. Gilbert E. Fisher
Value of Bronchoscopy in Diseases of the Lung

Dr. J. R. Garber, Dr. T. M. Boulware, Dr. J. W. Williams
Gynecology and Obstetrics—Manikin Demonstrations

Department of Public Health, Alabama Association of Obstetrics and Gynecology
Complete Maternity Care

Dr. E. Dice Lineberry, Dr. Charles A. Willis
Electrocardiograms Illustrating Common Abnormalities

Dr. Holland Thompson, State Health Department
Air Rationing, Lung Pathology, Division of Tuberculosis Control, Chest Pathology

Seale Harris Clinic—Dr. Seale Harris, Dr. Seale Harris, Jr., Dr. Leon S. Smelo
"Diabetes Mellitus (Hypoinsulinism) Versus Spontaneous Hypoglycemia (Hyperinsulinism)"

Dr. Charles J. Thuss
Plastic Reconstruction Surgery

Hillman Hospital—Dr. Gilbert F. Douglas, Jr., Resident, and Staff
Internal Medicine

Hillman Hospital—Dr. James W. Stapleton, Dr. Joseph Perry, and Dr. V. J. Schilleci, Residents and Staff
Prenatal Care

Hillman Hospital—Dr. James W. Stapleton, Dr. Joseph Perry and Dr. V. J. Schilleci, Residents and Staff
Obstetrical and Gynecological Department

Walker County Hospital (Jasper), Dr. A. C. Jackson
Blood Bank in Small Hospitals

T. C. I. Hospital (Fairfield), Dr. Alfred Habeeb
Continuous Sacral Anesthesia in Obstetrics

Dr. J. A. Meadows, Dr. Karl F. Kesmodel
Office Photography

Dr. L. E. Sorrell
Norwood Hospital Cancer Clinic

Manikin Demonstrations were given as follows:

April 20, Tuesday: following morning session,
"Breech Presentations" Dr. James R. Garber
April 20, Tuesday afternoon: following afternoon session,
"Forceps" Dr. T. M. Boulware
April 21, Wednesday morning: following morning session,
"Versions" Dr. James R. Garber
April 21, Wednesday afternoon following afternoon session,
"Forceps" Dr. J. H. Williams

Motion pictures were shown between sessions by the following, among others:

1 Dr. C. N. Carraway, Norwood Hospital
Pentothal Sodium Anesthesia
2. Dr. Gilbert F. Douglas
Exstrophy of the Bladder—Operation
3. Dr. Charles J. Thuss
Reconstruction of the Tip of the Nose by Pedicle Flap from Forehead—Operation

Commercial exhibits included:

McKesson and Robbins, Inc., Birmingham.
The Kellogg Company, Battle Creek, Mich.
Mead Johnson and Co., Evansville, Ind.
C. V. Mosby Company, St. Louis
Sharp and Dohme, Philadelphia
Eli Lilly, Indianapolis
Durr Drug Company, Montgomery
The Borden Company, New York
Gilliland Laboratories, Marietta, Pa.
J. A. Majors Company, New Orleans
Parke-Davis, Detroit
A. S. Aloe Company, St. Louis
Westinghouse Electric Co., Pittsburg
Endo Products, Detroit
Ciba Pharmaceutical Products, Summit, N. J.
Fairchild Bros. and Foster, New York
John Wyeth and Brother, Philadelphia
Audiphone Company, Birmingham.

(The proceedings of the last day's session will appear in the June Journal.)

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D.
State Health Officer in Charge

BABIES IN WARTIME

Sociologists and others interested in social changes and their effect upon a nation's population have called attention many times to the effect of war conditions upon birth rates. When Johnny marches off to war, they have been telling us, there is a much greater probability than in normal times that he and his fellow-soldiers, and also the sailors, marines, defense workers and other civilians, will become parents. Some people say this is merely nature's way of keeping things in balance, bringing more babies into the world to replace the older men who march off to war but do not march home again. Others say it is due to an intensification in war-time of the instinctive urge to bring new life into being and carry out the Biblical injunction to replenish the earth. Still others attribute it, with considerable logic, to war-time prosperity, which often solves the financial problems facing prospective, or would-be, parents.

Whatever may be the cause, the fact has long been well established: Births usually increase sharply in wartime. A "baby boom" accompanies the boom of cannon and the bugle call to arms. It was freely predicted therefore that this country's entry into the second World War would result in the largest "baby crop" in the nation's history. There is every reason to believe that this prophesy will be fully realized, both for the country as a whole and for Alabama. Indeed it has already been realized.

The State Health Department's Bureau of Vital Statistics recently compiled provisional birth reports which showed not only that many more Alabama babies were born last year, the first year of American participation in the war, than in any previous year covered by the vital statistics records but also that this State's provisional 1942 birth rate was the highest in 15 years.

Specifically, on the basis of those provisional reports, which may differ slightly from the final reports still in preparation, 72,488 babies were born in this State between January 1, 1942 and January 1, 1943. On the basis of Alabama's estimated population, this gives a provisional 1942 birth rate of 25.2 per 1,000 population. Last year's births exceeded by more than 8,000 the 64,047 reported in 1941. The closest approach to last year's record "baby crop" was reached in 1927, when 67,699 births were reported and when the birth rate, based upon a much smaller population, was 26.4 per 1,000 population.

It is true that the presence in Alabama of many military flying fields, army camps and defense plants has brought large numbers of persons here for the duration and that, as a result, many births are now occurring in this State that normally would occur elsewhere. However, it is safe to assume that Alabama's 1942 birth rate would show a considerable increase even if it were possible to include in the computation only those births occurring to more or less permanent residents of the State.

As the end of the war still appears far distant and the return to normal peace-time conditions even more distant, it seems certain that the upswing in births, both in Alabama and throughout the country, will continue for the next year or two at least. During the next year or two, therefore, more Alabamians and more Americans are expected to be interested in parenthood and its problems than ever before in the State's and the nation's history. A few suggestions regarding an important aspect of that subject —the baby's health—may be of interest. It is hoped that they will also be of some value.

To the mothers and fathers of the more than 72,000 Alabama babies born last year and to the prospective parents of the considerably more than 72,000 who are expected to be born during the next twelve months, the writer would voice a word of warning regarding the great unwisdom of failing to take their babies' health seriously. This does not mean that they should make a fetish of it or worry themselves sick at the first indication that anything is wrong. It does mean, however, that no time should be lost in obtaining proper medical care when there is reason to think a baby is really sick. It means particularly that a baby should be taken to a physician or baby clinic soon after his birth and taken back regularly. It means, too, that parents should follow carefully the advice given them by these health experts, even when it is contrary to their own preconceived ideas of baby care or the advice given them by well-meaning but medically ignorant friends and neighbors. It should be remembered that every baby is a distinct individual, with physical and emotional characteristics peculiar to him, and a home remedy which is believed to have cured one baby of a certain illness is by no means certain to cure another of the same illness, even if the parent can be certain that the illnesses are the same. The human body, especially the body of a young child, is too intricate and delicate a piece of mechanism to be subjected to any but individual treatment based upon its peculiar health needs.

An observant parent has little difficulty in knowing when there is something wrong with a young baby. One of the first indications that all is not well is usually a slight flushing of the face, inability to sleep properly, and a loss of appetite. When a baby becomes ill in a medical sense, meaning unwell, he usually also becomes ill in the layman's vernacular, meaning irritable or cross. He usually also tosses about on his bed, instead of lying quietly, whether asleep or awake. The hands and feet of a well baby are warm. The skin has the pink tint of health. When these things are not true of a baby there is good reason to assume that he is sick. The parent should lose no time in calling a doctor. Fortunately, most of the diseases to which young children are subject do not require the services of a specialist. So it is usually sufficient to call a general practitioner or take the child to his office, if the youngster is not too sick to be moved. If the case calls for specialized knowledge which he does not have, the general practitioner will suggest that it be turned over to a specialist.

Some of the most troublesome illnesses to which young babies are subject have to do with the stomach and digestion. According to provisional vital statistics reports, the condition known as diarrhea and enteritis (under two years) was responsible for the death of 276 Alabama babies last year. Whenever a baby's bowel movements become irregular or too frequent, or whenever he begins vomiting or gives other indication that he is suffering from a stomach disorder, a doctor should be called at once and, pend-

ing his arrival, the baby should be given no food at all except boiled water or barley water. Babies fed from bottles are more likely to become victims of this type of illness than those nursing at their mother's breasts.

Another form of illness for which mothers of young babies should be on the lookout is colic. This peculiar health hazard of babyhood is usually a result of some form of improper feeding. The feeding may be too often, too long at a time, or irregular. Or the parents or nurse may be feeding him milk that is too rich or contains too much sugar. The result is a case of indigestion, which produces gas in the bowels, which in turn produces colic. Mild cases can usually be relieved by continuous applications of flannel cloth which has been soaked in hot water and wrung out. To provide the required heat continuously, two or more cloths should be used alternately, one being soaked and wrung out while another is in place. To prevent burning of tender baby skin, the abdomen should be greased thoroughly with vaseline. Then the baby's abdomen should be covered with dry flannel or absorbent cotton. A laxative is often helpful, but whether it is needed in a particular case should be decided by a physician.

Young babies are unusually susceptible to colds, perhaps because they come into such close contact with adults who have colds. If a mother is coughing or sneezing, she is almost certain to transmit cold germs to her child unless she is unusually careful when she handles him and handles him only when necessary. It is surprising how many parents apparently pay no attention at all to this danger and fondle their babies as carelessly and as often when they are themselves potent disease-spreaders as when they are cold-free.

Babies also contract colds by being exposed to sudden changes in temperature, as when they are taken by unthinking adults from a warm to a cold room or placed in a draft after receiving a warm bath. A particular warning should be given against allowing young babies to play on cold floors, especially in winter. Remember, parents, that warm air tends to rise toward the ceiling, making the floor the coldest part of a building. Remember, too, that shoes and hose protect your own feet from the cold and prevent you from realizing how cold a floor actually is. A child enjoys no such protection, and much of his tender young body is in direct contact with the floor.

Much more serious than the average cold is rickets, a disease resulting from improper feeding and a lack of sunshine. Babies suffering from this form of illness do not learn to walk as soon as they should. Many of them also become bow-legged, and the soft spot on top of their heads becomes larger instead of smaller. The normal cutting of teeth is also interfered with, and a child may even be prevented from learning to talk as soon as his more fortunate brothers and sisters. Fortunately, rickets can be both prevented and cured. Prevention consists of obtaining necessary sunshine, consuming the types of food containing the rickets-preventing vitamins, and taking cod liver oil. In both prevention and cure the parent should be guided by the advice of a doctor, whose simple directions may easily be followed by any adult of normal intelligence.

Certainly one of the major health responsibilities of parents is to immunize their children against diphtheria and smallpox. Diphtheria toxoid and smallpox vaccine are furnished without charge to private physicians and county health departments. Both forms of protection therefore are available at small cost to those able to pay and entirely without cost to those unable to pay. It is most unwise to allow carelessness, indifference or procrastination to rob a single Alabama child of either of these means of defense against two of childhood's greatest health enemies.

You hardly need to be reminded that babyhood is a dangerous period. It is so full of perils in fact that approximately 50 babies out of every 1,000 born in Alabama last year —one out of every 20—died before completing their first year of life. This means that the parents of more than 3,600 Alabama infants followed small white caskets to the cemetery, many of them unnecessarily. It is one of the primary obligations of parenthood to do everything possible to prevent a single young life from being sacrificed to ignorance, prejudice or neglect.

"From a nutritional viewpoint, when it is fortified with vitamin A in the required amount, oleomargarine is the equal of butter, containing the same amounts of protein, fat, carbohydrates, and calories per unit of weight."

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

MARCH 1943

Examinations for diphtheria bacilli and Vincent's	799
Agglutination tests (typhoid, Brill's, undulant fever)	396
Typhoid cultures (blood, feces and urine)	485
Examinations for malaria	645
Examinations for intestinal parasites	1,567
Serologic tests for syphilis (blood and spinal fluid)	47,846
Darkfield examinations	60
Examinations for gonococci	2,742
Examinations for tubercle bacilli	1,775
Examinations for Negri bodies (microscopic)	59
Water examinations (bacteriologic)	837
Milk examinations	2,103
Pneumococcus	10
Miscellaneous	378
Total	59,210

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

MENINGITIS ON THE INCREASE

War time and its disruption of normal living conditions is always favorable to the spread of certain communicable diseases. Meningitis was one of the diseases that was particularly prevalent during the first World War and it is occurring today in ever increasing frequency. A report covering the first three months of 1943 shows that more than 5,000 cases of meningitis were reported in the United States as compared to slightly over 800 for the same period of 1942.

Alabama has been participating in this rise as evidenced by the reporting of 116 cases during January, February and March of this year as compared to 20 cases in the some period of last year and a total of only 83 cases in all of 1942. The median expectancy based on the past nine years would lead us to expect 84 cases a year and 31 cases during the three months under consideration. Measured against either standard it is apparent that this disease is particularly menacing at present.

Fortunately the outlook for a person contracting meningitis is much better today than it has been in the past. Mortality in the untreated cases will run as high as 90% with 50% an average figure. The introduction of antimeningococcic serum and later of the antitoxin materially reduced these figures, and then with the advent of the sulfonamide drugs a further reduction occurred. Today the routine treatment generally recommended is one of the sulfonamide drugs without the addition of an antiserum. Sulfadiazene has been the drug of choice although sulfathiazole or sulfanilamide has proven satisfactory. These drugs are cheap and are readily available so that no time need be lost in instituting therapy, and it is this early, vigorous treatment that will save the lives of many of those attacked.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

ALABAMA MATERNAL AND NEWBORN MORTALITY

Statistics for 1942

Contributed by

W. A. Cunningham, M. D., Obstetrical Consultant

	Live Births	Maternal Deaths		Stillbirths		Neonatal Deaths		Total Births
		Number	Rate*	Number	Rate	Number	Rate	
Colored								
Counties with Clinics	21,848	124	54.0	1097	47.8	800	36.6	22,945
Non-Clinic Patients	14,684	93	59.8	860	55.3	619	42.2	15,544
Clinic Patients	7,164	31	41.9	237	32	181	25.3	7,401
White								
Counties with Clinics	36,876	88	23.3	890	23.6	978	26.5	37,766
Non-Clinic Patients	35,743	87	23.8	875	23.9	959	26.8	36,618
Clinic Patients	1,133	1	8.7	15	13.1	19	16.8	1,148

*Rates: Maternal Deaths—per 10,000 total births.
Stillbirths —per 1,000 total births.
Neonatal Deaths —per 1,000 total births.

Non-clinic counties have been omitted from the above charts. There are several reasons: (1) In the main, the non-clinic counties are predominately white and whites have lower mortality rates to start with, aside from the question of clinic facilities. (2) The patients of the non-clinic county may have the advantage over those of the clinic county in many ways—economically, socially and educationally, with extra clinic

facilities, such as more doctor supervision and hospitals.

The same holds true to an even greater extent in attempting to compare rates of colored and white patients.

Thus conclusions can best be made by comparing clinic with non-clinic patients, in the clinic counties only: colored with *colored*, and white with white.

Here are a few things we learn from the above statistics, and incidentally they also illustrate why combined statistics would give a distorted picture:

(1) There are 6 times as many total non-clinic patients (52,162) as clinic patients (8,549).

(2) There are 2½ times as many white non-clinic patients (36,618) as colored (15,544).

(3) There are 6½ times as many colored clinic patients (7,401) as white (1,148).

(4) Among the colored there are 2 times as many non-clinic patients (15,544) as clinic patients (7,401).

(5) Among the white there are 32 times as many non-clinic patients (36,618) as clinic patients (1,148).

CONCLUSIONS

(1) Based on clinic vs. non-clinic patients, there is a definite improvement in *every category.*

(2) By listing white and colored rates separately, we find:

White

(a) An increase of 175% in maternal deaths
An increase of 80% in stillbirths
An increase of 60% in neonatal deaths
} of non-clinic over clinic patients

Colored

(b) An increase of 43% in maternal deaths
An increase of 73% in stillbirths
An increase of 67% in neonatal deaths
} of non-clinic over clinic patients

(3) Maternal Mortality:

First—Only one white mother (out of 1,148) died in childbirth.

Second—Let us take the two extremes in maternal death rates:

(a) White clinic patients—8.7 (1 out of 1,148).

(b) Colored non-clinic patients—59.8 (93 out of 15,544).

(b) is 7 times greater than (a).

Here is an example of where the great value of prenatal clinics has been spectacularly proven. In Alabama, 70% of the colored are delivered by midwives with hospital facilities seldom available, while 90% of the whites are delivered by doctors, the majority in hospitals and many of the remainder have hospital facilities available if needed. The colored are also less able economically, educationally, and environmentally, to carry out the instructions of the clinician, hence the smaller increase of maternal mortality rate of non-clinic patients over that of clinic patients in the colored than in white patients. Still it is 43% (175% in whites).

(4) Stillbirths and Neonatal Deaths:

Very striking is the tremendous number of stillbirths and neonatal deaths, especially among the colored where the two together amount to nearly 10% of the total births in non-clinic patients. This is cut to 5½% in clinic patients, which is still too high a rate. In the stillbirth and neonatal death rates, factors such as syphilis, malnutrition and systemic disease of the mother, heredity, etc. enter the picture to a greater extent than in the maternal mortality rate. This explains, as far as the whites are concerned, why there is such a spectacular increase of maternal mortality rates in non-clinic patients as compared with their stillbirth and neonatal death rates.

It is a foregone conclusion that with such increases as more clinics, more nurses, more time spent in the clinic by the clinician, and better education of the patient in the urgent need of adequate prenatal care, especially if she also attains better economic status, Alabama's maternity stillbirth and neonatal death rates can be cut tremendously so that she will no longer be forced to bow her head in shame before the other states of the Union.

Industrial Hygiene in the Navy—Over 50 navy medical officers have completed postgraduate instruction in industrial hygiene and many more have developed varying degrees of proficiency through personal experience in the navy industrial shore establishments. Such medical officers have been assigned to navy industrial shore establishments to be in charge of distinct units of industrial hygiene under the Senior Medical Officer. The majority of these officers are putting full time on industrial health work and cooperating with the station safety officer so as to provide and promote an adequate safety and health program.—*Am. J. Pub. Health, April* '43.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

EDUCATIONAL METHODS IN FOOD PROGRAMS

Contributed by
B. E. Phillips, B. S.
Senior Sanitarian

The County Health Officer or his delegated representative is authorized by the State Board of Health Food Regulations to enter any establishment in which foods or beverages intended for human consumption are made, prepared or processed, displayed for sale, or served, at any time for the purpose of inspection, and is further authorized to score establishments, and to publicly announce such scores. He is further authorized that whenever insanitary conditions are found to use all legal means to have same abated.

It is thus evident that the Public Health Laws recognize the value of scoring food establishments and of apprising the public of sanitary conditions of the various establishments by publishing or posting such scores.

Unfortunately it is often necessary to invoke the force of the law in order to obtain ends prescribed by the food regulations. However, it would be much more desirable if compliance could be had, and within a reasonable time, through education of the operators and the public. In any event, education should always be the essence of the initial approach.

A number of methods have been employed effectively in this phase of public health education, i. e., food handler's schools, demonstrations, pictures, lectures, and routine inspection and scoring by competent and conscientious personnel. The inspection and scoring method is probably the most effective and certainly the most universally used. The average county health department is best equipped to use it. This can of course be made more effective and more popular when supplemented by the other means of education.

Since inspection and scoring are such a vital part of the food control program in the average county it is highly important that this activity be exploited to the limit of its usefulness. This can be done when the following conditions are made to exist:

1. Each member of the inspection personnel should be neat, intelligent and conscientious. He should conduct himself in a manner that will at all times command the respect of the operators and his associates.

2. He should be thoroughly familiar with the State Board of Health Food Regulations, and with the State statutes as they pertain to his activities.

3. He should keep himself well informed as to new methods and current trends in his field.

4. Each establishment should receive one inspection per month, and more if conditions indicate it to be advisable.

5. A hurried, careless inspection would be better left undone. A thorough inspection with adequate time devoted to conference with the operator is always in order.

6. The inspection sheet should be legibly and completely filled out with every violated item checked carefully, preferably while in conference with the operator if his interest can be maintained.

7. The sanitary score arrived at should be a true indication of the conditions as they actually exist. When possible, the operator should be brought to agree that the score is justified. Methods for needed improvements should be suggested.

8. The inspection sheet should be neatly posted by the inspector, and in a place easily observed by the public. It should also be near the food establishment permit. The appearance of the inspection sheet could be enhanced if an open top frame were provided for it, with the words Sanitary Score appearing on the glass front in one-half inch letters.

9. A routine practice of publishing monthly in the local papers a short news item concerning county food control activities should prove of interest to both the public and the operators. In these items might be mentioned the highest and lowest scores during the last month. This should tend to direct the public's attention to the posted scores.

When the public becomes inquisitive concerning the sanitary scores of the various food establishments in which they buy food, this should be sufficient incentive to the operators to cooperate with the inspector in maintaining good scores.

CURRENT STATISTICS

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1943

	Feb.	Estimated Expectancy March†	March
Typhoid	5	4	8
Typhus	21	7	10
Malaria	62	49	81
Smallpox	1	1	4
Measles	128	731	1102
Scarlet fever	76	73	58
Whooping cough	145	141	153
Diphtheria	32	34	46
Influenza	1019	788	2477
Mumps	206	266	199
Poliomyelitis	2	2	2
Encephalitis	0	1	2
Chickenpox	224	155	245
Tetanus	2	0	4
Tuberculosis	229	171	224
Pellagra	12	6	19
Meningitis	49	44	11
Pneumonia	604	682	814
Syphilis	1796	1655	1357
Chancroid	17	23	8
Gonorrhea	568	637	327
Ophthalmia neonatorum	2	0	2
Trachoma	0	0	0
Tularemia	3	2	2
Undulant fever	1	3	2
Dengue	0	0	0
Amebic dysentery	1	1	0
Cancer	170	143	0
Rabies—Human cases	1	0	0
Positive animal heads	11	21	0

*As reported by physicians and including deaths not reported as cases.

†The estimated expectancy represents the median incidence of the past nine years.

Scientific Research—As an illustration of the rapid progress in chemotherapy it is interesting to describe in some detail the most recent development. In 1929 Dr. Alexander Fleming, an English bacteriologist, discovered that a certain mold, Penicillium notatum, when cultivated in a suitable growth medium manufactures a substance which checks the multiplication of gram positive bacteria—the usual causes of suppurative processes and of septicemia or blood poisoning. This discovery was at first largely of technical interest. Within the last three years, however, its use has been extended with success to the treatment of human infections. At first only small and inadequate amounts of the material could be prepared. Intensive study of the processes of cultivation of this mold by scientists in governmental, university and commercial laboratories is resulting in the production of increasing amounts, so that the scope of its use in human disease is being rapidly extended. This substance is many times more active than the sulfonamide drugs and is useful against the same types of bacteria. It has the additional advantage of being effective against certain organisms such as the staphylococcus, a frequent cause of septic infection, a field in which the sulfonamides have proved to date to be of very limited value. There are indications that it may be of value even in gas gangrene, one of the most dangerous and resistant to treatment. —*Dochez, J. A. M. A., May* 1, '43.

THE WOMAN'S AUXILIARY

The convention of the Woman's Auxiliary to the Alabama State Medical Association held in Birmingham April 20, 21, 22 was a successful affair, due in large part to the fact that the members of the Woman's Auxiliary to the Jefferson County Medical Society had looked forward to the meeting with a great deal of pleasure and made many plans for it.

Besides the business meeting there were several social entertainments and the delegates found the few days spent in Birmingham very pleasant.

* * *

The Woman's Auxiliary to the Jefferson County Medical Society has recently furnished a recreation room at the Birmingham Army Air Base which the service men are now enjoying.

The Auxiliary recently sponsored a dance for these same men at the Pickwick Club.

Plans are now under way for the organization of a doctor's aide corps made up of members of the local auxiliary.

The Mobile County Medical Auxiliary met recently at the home of Mrs. C. N. Owen on Government Street. Co-hostesses were Mrs. R. P. Lester, Mrs. Selden Stephens and Mrs. David Sellers. Several visitors, whose husbands are stationed at Brookley Field and the Marine Hospital, were present, and Mrs. J. B. Graham, a newcomer to Mobile, was also at the meeting.

Mrs. J. T. England was in charge of the program, and introduced Mrs. S. E. Fogelberg, who spoke on "Health Insurance in Norway." A poem in celebration of Doctor's Day was read by Mrs. A. M. Cowden. An article presenting the Jane Todd Crawford memorial fund was read by Mrs. J. Mac Bell. Elected as delegates to the state convention in Birmingham were Mrs. H. R. Cogburn, president of the auxiliary, and Mrs. A. M. Cowden. Mrs. J. T. England was named alternate delegate.

At the conclusion of the business, delicious refreshments were served, and a social hour was enjoyed.

The next meeting will be held at the home of Mrs. J. H. Dodson on May 19, at 3 p. m.

BOOK ABSTRACTS AND REVIEWS

Abdominal and Genito-Urinary Injuries. Prepared under the auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Abdominal Injuries: Prepared by Ambrose H. Storck. Evarts A. Graham, Chairman. Genito-Urinary Injuries: Prepared and edited by the Subcommittee on Urology of the Committee on Surgery. Herman L. Kretschmer, Chairman. Volume 3. Military Surgical Manuals. Cloth. Price, $3.00. Pp. 243, with 79 illustrations. Philadelphia and London: W. B. Saunders Company, 1942.

This is the third manual of the series prepared under the auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council to be used by the Army and Navy as a guidebook in the handling of abdominal and genito-urinary injuries. It is prepared by a group of outstanding physicians.

The first part contains eleven chapters devoted to abdominal injuries. It deals very methodically with the types of injuries, their incidence, the various causes, the symptoms produced, the treatment, complications and, finally, statistical results.

Primary attention is paid to shock and hemorrhage. When this is controlled and operation is indicated, it should be prompt since the mortality rate increases rapidly as hours pass. This is especially true when abdominal viscera have been penetrated. Penetration by missiles is the most common injury seen in this field. The types of anesthesias are only briefly discussed.

In regard to operative procedures, the logical order of incision, arrest of hemorrhage, cleansing the abdominal cavity, drainage, closure and irrigations is maintained. Wounds of the individual organs are discussed in detail.

The pencil drawings by Vera Morel are well executed. Pages 100 to 107 really belong in the last half of the book.

The second part of the volume consists of six chapters dealing with injuries of the genito-urinary tract. These include injuries to the kidneys, uterus, bladder, both genitalia, contusion and penetration. Much is included concerning the neurogenic bladder, especially in view of the high incidence of spinal cord injuries. The rules set down are flexible but are chiefly the results of the extensive experience in the 1914-18 war. Death from this type of urinary infection was 80% in the last war. The precepts and precautions of dealing with the neurogenic bladder are repeatedly stated and are emphasized. By enclosing them in black lined inserts the last chapter on "Do's and Dont's" is a concise, impressive tabulation for every physician who must see genito-urinary injuries.

Norman Van Wezel.

Flying Men and Medicine. The Effects of Flying Upon the Human Body. By E. Osmun Barr, M. D. With an Introduction by James H. Defandorf, Colonel, United States Chemical Warfare Service, and Foreword by Bernard L. Jarman, M. D., Lieut. Colonel, Medical Corps, U. S. R. Cloth. Price, $2.50. Pp. 270, illustrated. New York: Funk and Wagnalls Company, 1943.

In this book the requirements of the body and mind in meeting the special stresses imposed by flying at high altitudes and at great speeds are explained in clear and simple language.

A high standard of physical and mental qualifications demanded of flyers today has established the need for this new and important branch of medical science—aviation medicine.

The physiology of altitude, the psychology of fear and the vital capacity for meeting the strains of flying are just a few dramatic chapters being written as the search continues for man's greater security and longer life in the air.

Dr. Barr gives a graphic picture of what actually happens in a physical way to the flyer, and tells what the aviator's body actually does in the air—and why.

He describes how important is the functioning of the eye.

He explains what the ear does in an airplane and how it acts in producing equilibrium in flight. All the exactions upon the respiratory, circulatory and digestive systems of the body are pointed out. The importance of diet is emphasized, and a helpful summary of health-building food elements is given.

Flying Men and Medicine is designed to give the hosts of young people from which flyers of the future must be recruited all the fundamentals of aviation medicine. The book shows young men and women how they can train to pass the severe physical and mental examinations required, and how they may maintain their health after they have won their wings.

To the mothers and fathers of both present and future flyers this book describes how parental love and care, combined with understanding, can do much toward helping to create physical fitness for flight.

Knowledge of aviation medicine contained in this book will prolong the life and contribute to the safety of every aviator.

The author received his post graduate surgical training at St. Luke's Hospital in New York and is now a member of the Surgical Staffs of Emergency and Doctors Hospitals in Washington, D. C. Dr. Barr was air crops officer in the First World War, serving as flying instructor on bombing planes. In the first experiments on the medical aspects of flying he volunteered as one of the "guinea pigs" in the experimental laboratory set up in 1918 at Hazelhurst Field, Mineola, Long Island.

The Publishers.

Surgical Pathology. By William Boyd, M. D., LL. D., M. R. C. P. ED., F. R. C. P. Lond., Dipl. Psych., F. R. S. C., Professor of Pathology, University of Toronto. Fifth edition, thoroughly revised. Cloth. Price, $10. Pp. 843, with 502 illustrations and 16 colored plates. Philadelphia and London: W. B. Saunders Company, 1942.

The fifth edition of this standard text is a definite improvement over previous editions. Throughout the entire volume Dr. Boyd is didactic but not judicial. This is a useful method for teaching purposes. In general he expresses his

own opinions and relates from his own experiences. The bibliography, however, is evidence that he has read the literature widely.

One feature of the text is that the less common disorders are put in fine print so as to conserve space and at the same time indicate what may be omitted by those less interested.

Surgical pathology differs from the pathology seen at the postmortem table in that the former is usually less advanced. It is, in reality, a "living" pathology. The prerequisite for every surgeon is that he fully understand the pathology at necropsy in order that he may better understand the pathology at the surgical table. It is in the operating room that the surgeon must know the pathological picture from the gross appearance of the organ as he holds it in his hand. His decisions must be made, therefore, from the gross appearance of the tissue.

The contents of the book consist of two chapters on definitions; then in order it takes up the granulomas and infections, and then deals with the regional pathology. Throughout are many excellent color plates, photographs and photomicrographs. The pictures of the lesions of the stomach are some of the best reproductions seen.

The subject of shock is very briefly discussed, perhaps purposely so in order to avoid the present conflicting theories. In the subject of thyroid diseases the nomenclature is not the one usually seen in standard texts.

The text is very easy to read and is quite inspiring since Dr. Boyd writes in the first person, making the entire volume almost "conversational" reading.

Surgical Pathology by Boyd is recommended to the surgeon, the general practitioner and to the student.

Norman Van Wezel.

Ophthalmology and Otolaryngology. Military Surgical Manual, Volume 11. Prepared Under the Auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Cloth. Price, $4.00. Pp. 331, with 188 illustrations on 124 pages. Philadelphia & London: W. B. Saunders Company, 1943.

This manual was prepared to serve the nonspecialist in the armed forces who must see injuries and diseases of the eye, ear, nose and throat. It is, therefore, elementary and dogmatic. The first part dealing with the tests and examinations for the eyes is of use to all Civil Aeronautics examiners and others who are interested in examining candidates for Civil Service, etc. It explains in detail the method of testing; it deals with the standard methods of visual and eye examinations. The tests for malingering are especially useful to selective service examiners to detect individuals attempting to evade induction.

The chapter on inflammatory conditions deals very didactically with the most common diseases. Injuries, especially those that concern burns, are dealt with extensively; particular attention is paid to those burns caused by the various poison gases, contemplating the use of these gases in warfare. A copy of the "Do's" and "Don'ts" should belong on the wall in every accident room of every hospital.

The chapter on local anesthesia about the eye is ideal, especially for emergency procedures, but the operative procedures described include some operations that could well be left out since they must of necessity be done by a specialist, whereas the manual is intended primarily for the nonspecialist. These procedures include the operation for entropion, ectropion, pterygium, cataract, etc. Even with these present the portion on ophthalmology consumes only 160 pages.

The second portion of the volume dealing with otolaryngology is somewhat choppy. The first chapter on gunshot wounds of the face really belongs in volume 1 of the series which deals with plastic and maxillo-facial surgery.

The chapter on correction of nasal fractures is excellent in that the diagrams are almost completely self explanatory. The photographs of the dental wiring for fractures of the mandible and maxilla are excellent. Again, the tests for malingering as regards hearing should be read by all selective service examiners. In the same chapter are included the tests for patency and equilibrium as well as hearing.

The importance of aviation medicine is well shown by the inclusion of the effect of flight (noise, pressure, diving, altitude, etc.). The chapter by Dr. Berry on the reeducation of the deafened soldier and speech defects is on emergencies that probably can be handled better at the base hospital than in the field. Their inclusion in the manual may be present merely to complete the text.

The combination of ophthamology and otolaryngology in the same valume is satisfactory, but the former seems to have been dealt with more logically and carefully than the latter.

Norman Van Wazel.

Congress on Medical Education and Licensure Lauded—Outlining the highlights of the statements made by high officials of government agencies and the Army and Navy before the thirty-ninth Annual Congress on Medical Education and Licensure, held in Chicago February 15-16 under the sponsorship of the Council on Medical Education and Hospitals of the American Medical Association, The Journal of the Association says in its February 27 issue that the Congress "was one of the most successful ever assembled. Indeed the results establish the necessity of the assembly in wartime. . .

"American medicine has performed remarkably in meeting the demands placed on it for the war effort. The officials of the government and officers of the armed forces who have been charged with the task of providing for medical care have been sympathetic to the needs of medical education and of civilian medical practice. The accomplishment of the Council on Medical Education and Hospitals in providing at this Congress statements from authoritative sources as to present plans and changes contemplated for the future in medical education and in medical practice merits the appreciation particularly of medical educators, since it stabilizes definitely a situation full in recent months of apprehension and doubts."—*Texas State J. Med., April* 1943.



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Miscellany

HIGH BLOOD PRESSURE IS FOUND TO BE COMMON OVER AGE OF 40

INVESTIGATORS SAY THAT IN UPPER AGE GROUPS A MILD DEGREE OF HYPERTENSION CAN BE NO LONGER CONSIDERED ABNORMAL

On the basis of blood pressure readings on 14,849 persons over 40 years of age, Commander A. M. Master, M. C., U.S.N.R.; H. H. Marks, A.B., Bethesda, Md., and Captain Simon Dack, M. C., Army of the United States, report in The Journal of the American Medical Association for April 17 that they believe "The presence of hypertension at age 40 and over is so common that a mild degree and perhaps even a 'moderate' degree can no longer be considered abnormal. Limits of normal blood pressure at these ages should therefore be raised. . ."

From their findings the three authors estimate that 41 per cent of the male white population of the United States and 51 per cent of the female white population 40 years of age and over would be expected to have high blood pressures of 150 90 or over. It is generally considered that in the younger age groups blood pressure readings of 120 80 to 130 80 are normal. The authors estimate that, according to their findings, at the age of 50 and over, 50 per cent of males and 62 per cent of females would have blood pressures of 150 90 or over, at the age of 60 and over the ratio would be 60 per cent for males and 70 per cent for females, while at the age of 70 and over it would be 66 and 74 per cent, respectively.

In the introduction to their report they point out that "The problem of hypertension is a fundamental one. Together with coronary sclerosis it is the most common form of heart disease and probably the largest single cause of death. This is doubly so if only those over 40 are considered. Furthermore, hypertension is important in respect to the role it plays in other diseases, e. g. arteriosclerosis of the cerebral, renal and coronary vessels.

"The incidence of hypertension in persons over 40 has become increasingly important because there are now millions of people who survive this age. One third of the present population is 40 years or over and it has been estimated that in 1980 nearly one half will be. . ."

In their survey the three authors determined the incidence of hypertension in each decade of life according to seven limits, namely 140 90 or over, 150 90 or over, 150 95 or over, 150 100 or over, 150 millimeters or over systolic, 90 or over diastolic and 95 or over diastolic. The first figure is the systolic or maximum pressure which occurs at the time of contraction of the heart. The second figure is the diastolic or minimum pressure which occurs when the heart is dilated.

In their study they found that "On the basis of the customary limit of hypertension, 150 and or 90 or over, a little over one fourth of the men have hypertension at ages 40-49, a little over two fifths in the next decade,

considerably more than half in those 60-69, nearly two thirds in those 70-79 and slightly more in the ninth decade. Among women . . . in the first age group, 40-49, almost a third have hypertension, more than half in the next decade, more than two thirds in the seventh decade and about three fourths in the eighth and ninth decades.

"Turning to the lowest limit of hypertension, namely 140 and/or 90 or over, it is found that about one third of the men between 40 and 49 years of age have hypertension, but this proportion increases rapidly for the next three decades, until it is over three fourths in the eighth. Among women the incidence of hypertension of this degree is approximately 40 per cent between the ages 40 and 49, rising rapidly and exceeding the three quarter mark between 60 and 69. The proportions continue to increase, but more slowly, through the ninth decade, when 85 per cent of the women have a blood pressure of 140 90 or over. . ."

FIND KIDNEY VASCULAR DISEASE NOT SOLE FACTOR IN PRODUCING HYPERTENSION

Microscopic studies of specimens of the kidneys from 100 living patients with hypertension or high blood pressure, made during the course of operations for the hypertension, showed that 60 per cent had normal renal or kidney function, in contrast to the almost invariable findings of well developed disease of the minute arteries of the kidneys of hypertensive patients observed post mortem, Benjamin Castleman, M. D., and Reginald H. Smithwick, M. D., Boston, report in The Journal of the American Medical Association for April 17. Twenty-eight per cent of the biopsies made by the two men showed no or insignificant vascular disease and an additional 25 per cent only mild changes.

"From these observations," they say, "it is concluded that the . . . evidence of renal vascular disease in more than half of the cases was inadequate to be the sole factor in producing the hypertension and that in many of these and probably others the hypertensive state antedated the renal vascular lesion which, once established, probably aggravated the hypertension. Furthermore, these observations are not in keeping with the concept that renal ischemia due to preexisting renal vascular disease is the cause of essential hypertension in man. . ."

Commenting on these findings, The Journal, in the same issue, explains that:

"The demonstration by (Harry) Goldblatt that chronic hypertension regularly follows partial clamping of the renal arteries of dogs and by (A. R.) Moritz and (M. R.) Oldt that people with chronic hypertension usually show diffuse renal arteriolar sclerosis at necropsy, whereas normal persons rarely have such sclerosis, suggests that renal vascular disease in man may be the etiologic counterpart of the Goldblatt clamps in the dog. . . Although all their (Castleman's and Smithwick's) patients had severe chronic hypertension, the renal vascular disease observed in 53 was so slight that it seemed unlikely in the opinion of the authors 'that the blood flow could have been embarrassed sufficiently to be the one factor responsible for the hypertension.' Thus it would appear that most if not all of the renal arteriolar lesions observed in persons dead of the effects of chronic hypertension should probably be regarded as secondary rather than primary. . ."

NOT THE MEAT BUT THE PROTEIN IS ESSENTIAL, WRITER DECLARES

THEREFORE, HYGEIA AUTHOR SAYS, OTHER FOODS HIGH IN PROTEIN, SUCH AS FISH AND CHEESE, CAN BE MADE TO DO AS WELL

Meat is necessary to our diet because of its high protein content, Phoebe Mayo Walters, Corona, Calif., says in Hygeia, The Health Magazine for May. She explains, however, that "it is not the meat but the protein which is essential, therefore other foods high in protein can be made to do as well. One of these is fish. . . Perhaps during this war our domestic cheese will come into its own. From the simple cottage cheese to the fancy Swiss, it equals in quality any in the world and could be used to great advantage, being superb as a food because of the high quality of its protein.

"Other foods high in protein are those of the dry bean family—white, navy and kidney beans, black peas and so on, and also the soybeans, peanuts and peanut butter. . . Soybeans are extremely high in protein, and it has been estimated that the cost of production of protein from soybean plants is about one tenth of what it would cost to produce an equal amount of protein in meat. . .

"One thing more we shall do well to remember. There is no evidence to support the theory that when we buy expensive cuts of meat we are buying more or better protein than the cheaper cuts would provide us. Furthermore, the most nutritious parts of every carcass are seldom chosen at all, but go to making fertilizer or feed. We spurn the blood, lungs, stomach, pancreas, kidney, brain and heart. . . American packers, knowing our peculiarities, put these tidbits into their canned dog food, and consequently it is often demonstrably superior in nutritive value to most of the meat they can for us. . ."

Although we may be deprived of some of our pet dishes due to the necessity of providing for our troops and our allies, rationing and food substitutes will assure to all an adequate, ample diet, Mrs. Walters points out. "We shall find to our surprise that there are substitutes for practically all the foods we thought we could not do without," she explains. "It may surprise us even more, in the days to come, to find ourselves eating those substitutes and liking them."

The Committee on Foods and Nutrition of the National Research Council, Mrs. Walters says, has, after thorough study, devised a "Washington nutrition yardstick." If we are to measure up we shall have to eat more dairy products, meat, fish, fruits and green or yellow vegetables. Rationing and avoidance of waste will assure us each of our share of these essential food products.

DANGERS OF BOTULISM IN HOME CANNING ARE POINTED OUT BY THE JOURNAL

The dangers of botulism, particularly during the coming home canning season when many persons who never before attempted home canning will be preserving garden produce, are pointed out by The Journal of the American Medical Association for April 17. The Journal says:

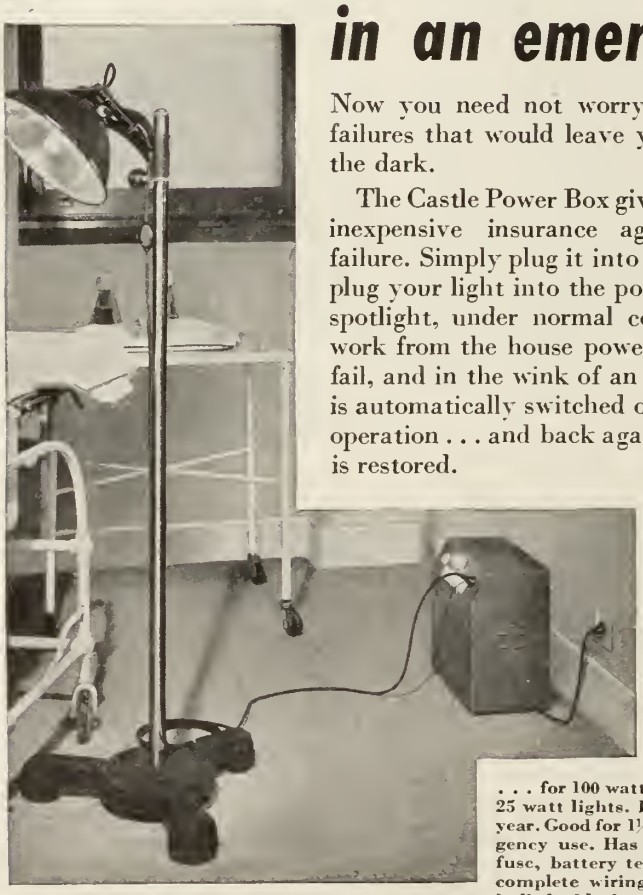
"Meyer and his associates in California have gathered statistics on 367 outbreaks of botulism in the United States since 1899. Only 83 of the outbreaks have been due to commercially canned foodstuffs; with one possible exception, outbreaks have not occurred in nearly twenty years from this source. The other 284 outbreaks have been caused by foods canned in the home. The total cases of the disease for the forty-three years numbered 1,052 with 687 deaths, a fatality rate of 65 per cent. How many other unrecognized cases have occurred is unknown. During the coming canning season many persons who never before attempted home canning will preserve garden produce. The danger from botulism is ever present unless proper precautions are taken. Faust, discussing methods of home canning, emphasizes the necessity of the pressure cooker with an accurate gage or thermometer for nonacid foods, such as string beans and corn. Any such foods that have been processed in any other manner must be reboiled for at least fifteen minutes before tasting or using. Any home canned food that shows the slightest evidence of spoilage should not even be tasted, for the toxin of the botulinus bacillus is the most powerful poison known. The problem calls for concerted effort by agricultural advisers and public health personnel in warning against faulty methods of home canning and alertness of physicians in recognizing symptoms and administering antitoxin early and in adequate amounts."

TOO MUCH OR TOO LITTLE THIAMINE

A recent investigation indicates that too much or too little thiamine or vitamin B_1 may be detrimental to health, The Journal of the American Medical Association for April 17 points out in an editorial discussing a study by Claire Foster, J. H. Jones, Werner Henle and F. Dorfman on the relative susceptibility to infantile paralysis of mice maintained at different levels of vitamin B_1 intake. It was found that the incidence of lethal paralysis increased fivefold as a result of an excessive intake of vitamin B_1. On the other hand, 40 per cent of another group of mice maintained on a diet deficient in vitamin B_1 showed signs of the deficiency within fifteen days, with 40 per cent of them dying within thirty days. The Journal says that the data suggest "the tentative conclusion that the maximum natural resistance to poliomyelitis virus is obtained from a minimum full maintenance level of vitamin B_1 intake and that intakes either above or below this level cause decreased resistance. If this should be confirmed by future tests, it would form a new rational basis for dietary hygiene and clinical therapy."

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THE JOURNAL
of
THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA
Published Under the Auspices of the Board of Censors
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OBJECTIVES IN MEDICAL EDUCATION*

A. C. FURSTENBERG, M. D.
Ann Arbor, Michigan

No greater honor and privilege could be paid me than the invitation extended by your President to take part in this great meeting. The occasion that commemorates the memory of Dr. Jerome Cochran justifies the best that can be said and is worthy of my highest praise and commendation. The honor conferred upon me, however, is attended by a feeling of uncertainty and even embarrassment as to my ability to do justice to this occasion.

However, it seems a propitious time and in keeping with the philosophies and thinking of the great man to whom we now pay tribute to pose some of the problems of medical education that appear to be extremely vital and important to our profession. You have come face to face with them in Alabama, now that you are contemplating a four-year medical school and there is afforded here an enviable opportunity, because of freedom from prejudices, alliances and traditions, to solve them in accordance with changing methods of practice and public needs of medical service.

I offer for your consideration the question: What is the purpose of a state medical school? What are its functions, its responsibilities to the State and its duties to the profession of medicine? From time to time all of us engaged in medical education must take stock of our responsibilities, study our objectives, evaluate our reason for existence, and try to give ourselves the right answers.

Our first purpose in the medical school is to train men and women to be doctors who will practice with credit to themselves and safety to their patients. In this connection it is our solemn obligation to select good timber. We must choose students who are properly prepared to study medicine. Some thirty years ago a number of the medical colleges in this country realized that the student needed a broad general education to meet the requirements of medical practice and insisted upon at least two years of college preparation for all candidates seeking admission for the study of medicine. Among the 12,000 applicants for admission to the medical schools of this country last year, 93 per cent of them presented three years or more of college preparation. Sixty-six members of our entering class last fall out of a total of 125 students held baccalaureate degrees and the remainder of the freshman class met the three-year requirement.

The college curriculum of premedical preparation requires careful scrutiny today by medical educators and the leading practitioners of our country. Its original purpose some thirty years ago was to give the student a broad general education before he commenced the study of medicine. This purpose obviously did not continue to dominate the picture. As time went on, more and more science subjects were added to the premedical curriculum; the social sciences were pushed out into the periphery so that the technical studies in the medical school could be given at an advanced level. It is gratifying to know, however, that the pendulum now appears to be swinging in the opposite direction. It is felt that the science subjects have become so numerous and are taught in such large quantities that the opportunity for a liberal education is no longer given the student who contemplates the study of medicine.

*Jerome Cochran Lecture, delivered before the Association in annual session, Birmingham, April 21, 1943.

Dean of the University of Michigan Medical School.

Consequently, today many of the arts colleges and the medical schools have agreed to make the premedical curriculum more flexible and less stereotyped, to open it up widely to a great variety of cultural subjects so that it will give the student a greater fund of general information and mature him mentally before he commences the pursuit of specific medical courses. It is felt that the premedical course should not be specifically preparatory to the study of medicine but that it should constitute a liberal education and prepare the student for any professional study in which he may wish subsequently to engage.

A pervasive criticism which has remained unchanged for the past quarter of a century and is constantly in evidence in our educational journals and wherever meetings devoted to medical education are called to order is that our curriculum is too congested. Most medical courses contain approximately 4,500 hours of prescribed work. Thus the student is required to commence his classroom studies at eight o'clock in the morning and carry his burden until five o'clock in the afternoon. He has no time for reflection, no time for independent thinking, no opportunity for self-conceived work. His hours are spent for the most part on faculty-imposed assignments which include a long list of didactic lectures and technical laboratory studies definitely prescribed in a medical curriculum.

Critics, therefore, very properly urge us to pare our medical courses down to their essentials. It is pointed out that no subject should be taught in all of its details because the professor in charge is particularly interested in promoting one of his hobbies. No one minor specialty should occupy the time of the medical student to the exclusion of ample opportunity for the study of general surgery and internal medicine. Medical training, in other words, should be reduced to that quantity of information and knowledge which is necessary for the general practice of medicine.

It must be emphasized that study is a solitary activity, a lone accomplishment. One's best work is done in the quiet confines of his room. While the student must acquire a certain amount of basic knowledge, his responsibilities reach beyond those of becoming a compendium of facts. True education is self education and it is the duty of the student to acquire useful habits of study, resourcefulness and self-reliance. He must develop an inquiring mind and learn to interpret what he sees with clear vision and sound judgment. Counsel and guidance are necessary and these are the true functions of a teacher; nevertheless, the student must take time for reflection, independent thinking and self-conceived effort if he is obtain a full measure of a medical education.

A criticism of medical education today which no educator or practitioner of medicine will deny is the lack of knowledge of the fundamental subjects revealed by our seniors and young graduates. At the time of graduation they are not properly prepared in the fundamental subjects. It is obvious to them and to their older colleagues that they are particularly deficient in a knowledge of the basic sciences such as anatomy, physiology, pathology and biochemistry. To be sure, it is admitted that medical students possess a most comprehensive understanding of these subjects upon immediate completion of them but this knowledge is not retained in a usable form for the time when the student will commence the practice of medicine.

This criticism should cause us some concern when we realize that the basic sciences lay the foundation upon which the superstructure of medicine is erected. They represent approximately one-half the cost of a medical education. One-half of the entire curriculum is given over to them. Is it not a pertinent suggestion, therefore, that some means be devised whereby the medical student is helped to retain a workable knowledge of the basic sciences for the time when it will be needed in the practice of medicine?

An analysis of our present curricular arrangement discloses the fact that our medical students spend two years in the study of the basic sciences and then abruptly abandon these courses and devote their entire time to practical clinical problems in the hospital. Should we not be reproached for this plan which violates one of the fundamental principles of pedagogy, namely, to illumine practice by theory. These two important phases of education should not be divorced. Whenever the medical student commences the study of medicine he should be introduced at once to some simple but genuine practical problems in the clinical

departments of the hospital. He should come in contact with the patient early in his career and study the etiology and prevention of disease. It is exceedingly difficult to justify the contention that practical work should be postponed until the student has completed six or seven hundred hours of anatomy, four hundred hours of bacteriology, three hundred hours of physiology, to say nothing of years of scientific study in the arts college, all of which has been prescribed on the basis of essential knowledge for the practice of medicine. If these fundamental subjects are necessary for medical practice, then some effort should be made to see that a knowledge of them is retained.

The problem is not difficult of solution. It is the consensus of opinion among medical educators that the desired result can be obtained by promoting a better correlation of the basic sciences and clinical medicine. It is recommended, therefore, that the fundamental subjects be pursued, not for a greater number of hours, but throughout the medical curriculum in close association with clinical medicine. In other words, we must adopt a schedule that will keep the basic sciences alive during the entire period of training so that the student will have as serviceable knowledge of anatomy as he has of surgery on the day of his graduation.

Let me summarize, therefore, the criticisms and recommendations for medical education today. Those who are responsible for the training of medical students should give serious thought to the following alterations and adjustments in the premedical and medical curricula: first, to make our premedical curriculum more flexible and less stereotyped so that it will give the student a broad general education before he engages in the study of medicine. Let it be modernized and made to serve the original purpose for which it was designed some forty years ago. Second, let it be urged that we pare our medical subjects down to their essentials in order to give the students time for reflection and independent thinking; a little taste of the "sink or swim" plan. Third, let us bring about a better correlation of the basic sciences and clinical medicine so that the young doctor will not be deficient in his knowledge of either one of these two important groups when he commences the practice of medicine. It is my humble opinion that if we fail to accomplish these adjustments we are going to be woefully out of date in our methods of medical education.

At the risk of being in the minority of one, if I do not already occupy this position, I must emphatically state that I do not believe it is possible to obtain the maximum efficiency in medical education if the basic science departments are geographically removed from the clinical services in the hospital. There should be no remote separation of the medical school and its hospital which furnishes its clinical laboratories. My experience at the University of Michigan where the Medical School is removed six city blocks from the hospital convinces me beyond a doubt that it is a serious mistake to separate one from the other even by a short distance. The ideal arrangement is a medical school directly connected to its hospital in such intimate relationship that there are no barriers to daily and hourly conferences between the preclinical and clinical faculties. Modern medicine demands that the basic sciences must serve the clinician. In order that theory may enlighten the practice of medicine; the basic sciences inspire and elucidate clinical research and undergraduate and graduate medical education associate intimately with the fundamental subjects, there must be no geographical separation between the faculties of the preclinical and clinical departments.

I should be remiss today in a discussion of medical education if I were to avoid reference to the impact of war upon our medical schools. There is much that I may say in reference to this subject, but there is little that I may utter today that may not be obsolete tomorrow. We are living from day to day and the uncertainties of such a life cause grave misgivings about the wisdom of anyone appearing in public to offer prophecies and sage advice.

There is, however, one prophecy that I can make with deep conviction, and that is that all physically qualified male medical students are destined for the armed forces of this country. The demand for medical men in our national agencies today is appallingly great. The army may establish a goal of 60,000 doctors within the next year. There are 176,000 physicians in the United States, of which 142,000 are in the private practice of medicine. There are 83,000 doctors in this country under the draft age of forty-five. Approximately 20,000 of this group

will be physically disqualified, leaving 63,000 able-bodied physicians, from which a 60,000 medical army must be recruited. Thus it becomes apparent that the civilian practice of medicine will necessarily be conducted by cripples and old men.

The medical schools of this country are well aware of the urgent need of medical men, and 66 of the 78 in the United States have instituted an accelerated program. Through the utilization of the summer months for a third term or another quarter, the medical student will be graduated in three years instead of four. During the past ten years the medical schools of this country have graduated approximately 5,000 male doctors annually, or a total of 20,000 in a period of four years. Under the accelerated program it is estimated that our medical schools will graduate 32,000 doctors in four years, or 12,000 more than would normally complete the study of medicine in a four-year period. And this is being accomplished without lowering our standards of medical education by a teaching staff that has suffered a reduction in number of 20 to 40 per cent.

I have no doubt that the medical profession will see its responsibilities in this great conflict and rally to the support of our government and its allies. Never in the history of these United States has the medical profession failed to shoulder its burden of any great disaster. It has never ceased to give its unfailing support to the armed forces in time of war.

In the Revolutionary War there were 1,200 doctors in the Continental Army. In the war of 1812 there were 9,000 doctors in military service. In the North American Civil War there were 21,000 doctors in the armed forces of this country, 12,000 on the Union side and 9,000 with the Confederate troops. By the end of World War I, there were 31,000 physicians in the army and there is every indication now that the doctors are joining the army as rapidly as they can be accommodated by the facilities, equipment and available positions.

But in speaking of the number of doctors required for the armed forces and civilian practice, I must not pass without emphatic mention of the quality of physicians needed today. Here we find medical education confronted with a responsibility which it must not shirk. Important adjustments in our medical curriculum must be made to meet the needs of warfare but it is also our immutable duty to maintain high standards of medical education.

There is no place in this country today for the symptom treater. We must have competent doctors who are familiar with modern diagnoses and modern methods of treatment. The rapid shifts of population in this country are destined to give rise to epidemics and we must have physicians who are acquainted with the means of diagnosing these diseases and controlling their spread. One has only to observe the license plates of southern states on the automobiles operated by the employees at our bomber plant at Willow Run to realize that we are going to have some malaria in the southern part of Michigan. But this is only one of the numerous epidemic diseases that threatens to be disseminated during this emergency. We must train physicians in the methods of diagnosing infectious diseases and the means of controlling their advance. We must keep our civilian population in good health, our farmers, our employees in the defense manufacturing plants, if we are to keep a constant stream of food and equipment flowing to the armed forces in the various theaters of operation.

But I am sure that you will agree with me that the need for well trained doctors is equally important in military service. It is a matter of historical verity that epidemics invariably occur in countries where war is waged, and not only do they invade the region of combat but are frequently brought home by returning soldiers and prisoners. Napoleon commenced his invasion of Russia with an army of 550,000 men. When he crossed the Polish border in August of 1812, 80,000 of his troops were ill with dysentery. When he entered the city of Moscow on September 14, typhus began to spread among his soldiers. His retreat started on October 16, and by November 9, less than one month later when he had reached Smolensk, he had lost 250,000 troops, one-half of his total expeditionary force. It is true that some of these men froze to death; nevertheless, disease was largely responsible for the devastation of Napoleon's army.

In the North American Civil War, a million men rose to arms in a cruel and bitter hand to hand combat. The North lost 45,000 in battle; 50,000 died from wounds, a total of

95,000 casualties, the direct result of bloodshed. However, nearly twice this number, 186,000, died from disease, dysentery, smallpox, measles, scarlet fever and typhoid fever, with the last by all odds the greatest offender: and similar proportional statistics apply to the Confederate troops.

History records how severely the French army was devastated by smallpox in the Franco-German war of 1870. Compulsory vaccination had never been enforced in the French army. The Prussians, however, had vaccinated all recruits since the year 1834 and, as a consequence, there were only a few scattered cases of smallpox among the German ranks. It is stated on good authority that smallpox, not bullets, was responsible for the defeat of the French army in this conflict.

These historical references indicate in a small measure how severely belligerent armies may be affected by infectious diseases and how important it is for our civil and military medicine to bend every effort in the prevention and control of epidemics. The responsibility, therefore, of medical education must be obvious to all of us.

A duty and an obligation of paramount importance in our medical schools today is the promotion of scientific research. Where there is no research, there can be no progress in medicine. We must have faculty members with vision who are constantly evolving new theories, subjecting them to careful experimental studies and deriving facts which are of practical value in the field of medicine. Dramatic illustrations of these processes of research can be found in the history and development of chemotherapy. And there are reputations yet to be made in this field of endeavor. The list of opportunities for research in medicine is endless. Consider, for example, nutrition, shock, aviation medicine, neuropsychiatric problems, industrial medicine, and numerous other subjects inviting our attention and demanding our unrelenting efforts if we are to wage a successful war against our enemy.

And finally, let me point most incisively to another great responsibility of our educational institutions, namely, the part they must play in the rehabilitation of medicine when this war has come to an end. It is not only important to win a victory in battle but it is equally essential to be victorious in peace. We must not demoralize our educational institutions and our programs of continuing education at this time to the extent that we will pass into a period of decadence from which recovery is impossible. If we retrogress, we shall suffer the risk of having medical education and perhaps medical service taken out of our hands and placed in those of hierarchies. Every effort must be made to mobilize all of our resources for this emergency and to support the government to the fullest extent, but those of us who are not actively engaged in combat must lay our plans for a successful reconstruction after this war is over. We must face this obligation with a clarity of objective and a precision of action.

I am convinced that in medical education our most important problem for post-war planning is that of developing postgraduate and graduate curricula that will meet the needs of medical officers who will return to peacetime practice. Visualize, if you will, the vast group of medical men now serving with the armed forces who some day will return to our educational institutions for the consideration and help they will so richly deserve. Some of them will find opportunities for continuing education in line of duty, but the numbers thus favored will not be large. Only a selected few will be privileged to review the basic sciences while in the service of their country, consequently there will be a great need for the establishment of a post-war program for continuing education in these fields which are so indispensable to the creditable practice of medicine.

Therefore let us not fail at this time to give sedulous attention to this important phase of medical education that we may not be remiss in the preparation of a broad program of postgraduate and graduate study that will meet the requirements of the thousands of doctors who some day will return to our institutions for the service which it is rightful that we should render. It is obvious that the medical schools of this country and their affiliated hospitals have neither the facilities nor the faculty personnel to conduct the comprehensive schedules that the exigencies will demand. But it is entirely conceivable and moreover practicable that the medical schools might consummate an affiliation with hospitals within the states in which they are located that are equipped to offer graduate training and thus organize programs of large scope that will adequately

meet the needs of both our medical officers and civilian practitioners of medicine. In this close relationship the medical schools would assist in the organization of curricula, library facilities, the maintenance of educational standards, and furnish instruction in the fundamental sciences of medicine. Experience of the past few years in our own institutions indicates that residents in the hospitals of southern Michigan find little difficulty in traveling to our medical schools once a week for a day's instruction in one or two of the basic sciences. The resident engaged in clinical work in the hospital five days out of the week thus finds inspiration and guidance for the energetic pursuit of fundamental subjects on his 6th day in the laboratories of the Medical Schools. When deprived of practical application, the basic sciences are often exceedingly dull, but when theory enlightens and elucidates practice, the ideal objectives of medical education are reached.

The requirements of continuing education today and those of greater magnitude for the future challenge us to a plan of action which jointly and cooperatively embrace the maximum utilization of all educational facilities within our states.

Let us not fail now to subordinate all personal desires to the interest of our national welfare. Let us proceed resolutely to mobilize all of our resources in the interest of national defense. But when this dreadful conflict is over, let us be prepared to wage a peace that is worthy of the sacrifices of this great war. And let us beware, if we do not watch our step, we may win the war on foreign soil and lose the thing at home for which we are fighting.

Industrial Hygiene—When we think of industrial health in its modern concept, it seems to embrace the whole of life in a free democracy. The solution of individual problems rests upon the degree to which the industrial hygiene program considers the "whole man"—his home and his job, his family and his friends, his food and his drink, his loves and his hates, his financial problems, and his attitudes toward all these everyday relationships which make up modern life.

No matter how small the effort made for the improvement of industrial health, we shall have the abiding satisfaction of knowing that we have answered with a ringing affirmative the crucial question, "has it helped to win the war?"—*Townsend, New Orleans M. & S. J., May '43.*

NON-SPECIFIC URINARY TRACT INFECTIONS

PRESENT STATUS OF TREATMENT

JAMES B. HICKS, M. D.
Montgomery, Alabama

For many years previous to the discovery and use of mandelic acid and sulfanilamide in the treatment of urinary tract infections, the clinical results from chemical therapy of non-specific urinary tract infections were practically at a standstill. From time to time some new drug came into vogue and had its short period of popularity. In due course, however, each one of these lost its favor except for a very few, such as hexamethylenamine, citrocarbonate, sandalwood oil and ammonium chloride. Even though these drugs are frequently employed today, they cannot by any means be considered a specific for any type of urinary tract infection. The results from their use is often disappointing. While, however, the chemical therapy of these infections was not making progress, mechanical treatment through the cysto-urethroscope and ureteral catheters was being developed to a high degree of perfection. It was upon cysto-urethroscopic methods of treatment that the chief reliance was placed in the treatment of chronic, and even frequently, acute urinary tract inflammations. With the advent of mandelic acid and sulfanilamide, results were obtained and are still being obtained which in many instances are truly remarkable. A certain percentage of cases do not respond to the use of them as favorably as we wish. Certainly the results obtained from them are not lasting.

By reviewing briefly the whole theory of the causes of and influencing factors in urinary tract infections, I think we can more readily understand why lasting improvement cannot be expected in one hundred per cent of the cases from the use of drugs alone.

When one considers the very delicate and complicated structure of the kidneys themselves, with literally miles of minute tubules interlaced with a vast network of blood vessels, one is astounded that definite disorders of these organs are not more common as they are called upon constantly to eliminate the waste products of health and disease. In addition to the kidneys, the ureters, bladder, prostate gland, seminal vesi-

cles and urethra are very commonly subjected to disease and traumatic injury during and after surgical operations. It is said that the ordinary urethral catheter has probably saved more lives than any other surgical instrument. Most likely this is true. Unfortunately the infection in the urethra, prostate gland, seminal vesicles, and bladder, incident to its use during postoperative urinary retention, is not properly appreciated. Most assuredly the patients are not systematically followed and treated until these structures are restored to normalcy as should be the case.

Two of the chief promoting factors of infection which are particularly apt to be present in this complicated system are the frequent presence of bacteria in the kidneys and the prostate gland, and the interference with the normal mechanics of drainage of their products. In all probability, bacteria from foci of infection frequently circulate through the substance of the kidneys and, under certain conditions of interference with the normal physiology, are productive of disease. The renal cells possess a very strong phagocytic action through which they, in a great measure, prevent a more frequent occurrence of infection. Under normal conditions they can destroy large numbers of bacteria and rid the blood of them. For many years it was thought that normal kidneys secreted bacteria. Recently the excellent work of Helmholz has shown that a healthy kidney does not secrete bacteria and that the presence of bacteria in the urine is significant of disease.

While the active agents in almost all inflammations of the kidneys are bacteria, a few non-bacterial inflammations do occur. Ingestion of poisons, particularly cantharides and mercury, and the toxins produced in certain constitutional diseases, such as the exanthemata of childhood, are some of the causes of non-bacterial inflammations. The colon bacillus causes somewhere between seventy-five and ninety per cent of all non-specific urinary tract infections. *Staphylococcus aureus* and *albus* cause most of the remainder. *Bacillus proteus vulgaris, Bacillus typhosus,* streptococci, gonococci, *Bacillus pyocyaneus,* and the influenza bacillus occur occasionally. Among the contributing obstructive lesions from the kidneys downward are stones, blood clots, tumors, kinks, angulations of the ureter, congenital strictures, duplication of the ureters, and aberrant vessels. Pressure from the pregnant uterus and infiltrative carcinomata of the female pelvis frequently cause obstruction to the ureter. In the bladder itself, infiltrative carcinomata, neurogenic conditions, large stones and vesicle cysts frequently obstruct the ureters at the entrance to the bladder. In the urethra itself the most frequent obstructive lesions are growths of the prostate gland, strictures, phimosis, congenital valves and cysts, stenosis of the urethral meatus, and urethral caruncles.

The physician in general practice and even the urologist does not always realize the high incidence of urinary tract infections in relation to other diseases causing hospital admissions. Caulk, in reviewing some twenty-one hundred cases in the Barnes Hospital in St. Louis, found the incidence to be one to forty. There is a decided preponderance of females affected. In children the incidence is three to one. Even in the prostatic age, the percentage of infection in males and females about balance. We would expect a much higher percentage in the males. In infants and early childhood, infections are twice as frequent as in adult life. This is most likely due to the fact that at this time of life general infections and toxemias are more pronounced, while resistance both general and renal are less developed.

SYMPTOMS

The symptoms of pyelitis or other urinary tract infections may be almost negligible or very severe in character. The signs and symptoms of a typical acute attack of pyelitis need hardly be recounted here. Briefly, the subjective symptoms are, quite characteristically, chills, fever, pain in the costovertebral angle, and marked vesicle symptoms. Objectively, there is always definite tenderness in the kidney areas both anteriorly and posteriorly. The temperature is markedly elevated and frequently picket fence in character. The leucocyte count is always 15,000 or higher. The catheterized bladder urine specimen is usually loaded with pus, often with clumps. This type of case most often responds to bed rest and fluids. However, the initial attack may be regarded as a danger signal to a long course

of recurrent attacks. It is imperative therefore that complete urologic studies be carried out at the time of the initial attack so that the promoting factors as to cause can be properly evaluated and steps taken to correct them.

Unfortunately there is a large group of cases that do not present such a definite picture. In many, the findings are so atypical that it is only with complete urologic studies that the diagnosis can be made. I personally have seen several cases in which all the other systems of the body had been ruled out as the causative factor in unexplained fever. It was only because there were no definite positive data on the urinary tract that cystoscopy and pyelograms were made and an extensively diseased kidney found.

While acute pyelonephritis is most often unilateral, the chronic case is almost always bilateral. The number of symptoms also in the chronic case is subject to the widest variation. There may be either no symptoms referable to the urinary tract, or there may be frequency, vague pain and burning on urination. Practically always there are associated constitutional symptoms such as malaise, poor appetite, and loss in weight and strength. It is the rule that there is no pain in the kidneys unless there are obstructive lesions such as stones, ureteral stricture, kinks or angulations. The urinary findings vary widely. There may be only bacteriuria found by bacterial stains or culture. Again there often is pus varying in amounts from a few scattered cells to many leucocytes. The pus content in the urine in the same patient is apt to vary in amount from day to day.

DIAGNOSIS

The typical acute case of pyelitis does not present diagnostic problems, provided the symptoms are properly evaluated and the urine is completely studied. It is the atypical recurrent or chronic type that may be confused with other conditions and really call for careful diagnostic procedure. Pus in the urine in small or large amounts means disease of the urinary tract somewhere. Only by tracing these leucocytes to their source can we hope to diagnose and properly treat many of these unusual cases. A case in which pus persists in the urine after a fair test of chemical therapy and observation deserves the most careful urologic study. Excretion pyelography and even cystoscopic pyelography have been highly perfected and are so readily accessible to most physicians that no hesitancy really need be felt in the use of either of them. The causative organism must be determined in each case by stained urinary sediment and culture, especially as recent investigations have shown that certain organisms are more susceptible to one chemical agent than another.

THERAPY

While epileptic patients were being treated at the Mayo Clinic with the ketogenic diet, it was noted that the urinary tract infections in many were cured or notably improved concomitantly, especially if the offending organism was the colon bacillus. This observation opened extensive investigations which proved undeniably that the ketones in the urines of these patients were the effective agents. Unfortunately, the diet is intolerable to most people. Mandelic acid, fortunately, was discovered as a direct result of these investigations. It still has its field of usefulness in the chemical therapy of colon bacillus infections of the urinary tract. Infections by other organisms have been found to be resistant to mandelic acid therapy, especially those that produce a persistently alkaline urine. It is of no benefit and may be of actual harm when administered during the acute toxic stage of urinary tract infections. It has also proven to be useless following operations in which there is extensive trauma to any of the urinary organs. It is contraindicated in chronic infections if there is a true nephritis because it is apt to cause more irritation to the kidneys. A good many patients are unable to tolerate it chiefly because of gastro-intestinal upsets.

Sulfanilamide has the same contraindications as mandelic acid, except it has been shown to be non-irritating to the kidneys. Nevertheless, we all know of its toxic symptoms of headaches, dizziness and peripheral nerve trunk irritation, as well as dermatitis. Except for these reactions from its use, it does prove to be almost the ideal drug in a very high percentage of patients in the treatment of colon bacillus, *Bacillus proteus vulgaris* and streptococcic infections.

Neither sulfanilamide nor mandelic acid has proven efficacious against staphylococci. Sulfathiazole is the only really effective

drug in staphylococcic infections. It is the drug of choice to be prescribed when thorough urinalysis and bacteriologic studies cannot be conveniently done. The chemical reaction of the urine and the type of infection are not so important when it is used as in the others. Small doses, in my experience, are just about as effective as large doses in most instances. There is the added advantage of little or no toxic manifestations with small doses.

Whichever of these drugs is used, some twenty to twenty-five per cent of patients with chronic urinary tract infections will not have satisfactory results from chemical therapy alone. Practically all of these possess some obstructive lesion somewhere between the kidneys and the urethral meatus. Many of these can be satisfactorily treated by the cystoscope and ureteral catheter. Some will require surgical operations on the kidney, ureter, bladder or prostate gland. When the obstruction has been eliminated and a few weeks have been allowed to elapse, the infections can be cured in most instances by reverting to chemical therapy.

SUMMARY AND CONCLUSIONS

In concluding, here are four points I wish to stress:

1. Very little progress had been made in the chemical therapy of urinary infections for many years until the advent of mandelic acid and sulfanilamide.

2. Remarkable results have been obtained from these drugs in a large percentage of cases but twenty to twenty-five per cent do not respond favorably from their use alone.

3. The complicated structure of kidneys, ureters, bladder and urethra, with frequent obstructive lesions, not only promotes urinary tract infections but prevents its cure by chemical therapy alone.

4. Only by mechanical correction of the obstructive lesions by sounds, cystoscopic procedures or surgical procedures and then reverting to chemical therapy can we hope to cure the infections in anything like one hundred per cent of cases with the drugs now in use or any that may be discovered.

Every person who has heart disease does not need an electrocardiogram, but no patient can be said to have had a thorough examination unless an electrocardiogram is made.—*Bamber, New Orleans M. & S. J., May* '43.

Vitamin Deficiency—A definite diagnosis of vitamin deficiency is not easy. One must consider a number of factors, which include a study of the cardiac symptoms, a history of an unbalanced diet, the presence of other signs of deficiency, the absence of heart disease of another kind, the changes in the electrocardiogram, and the response of the patient to treatment. The most definite evidence of a positive diagnosis at the present time is the prompt response to the therapeutic test.

The therapeutic problems of vitamin deficiencies in the United States are complicated because the deficiency is apt to exist where it is least expected. These problems cannot be solved by a simple correction of the diet, for by this means only a very slow improvement can be obtained. Many failures of vitamin B therapy are due to the administration of the missing factor in doses which are too small. The best results are obtained by giving doses several times larger than the estimated maintenance requirements. There appears to be little danger of overdosage of thiamin chloride and as much as 100 mg. or 30,000 units per day may be given. Few undesirable symptoms have been reported and for practical purposes it may be considered to be non-toxic. We have observed reactions in a few patients which we considered allergic, but these were neither prolonged nor severe. The recommended procedure is parenteral administration of vitamin B_1 accompanied and followed by feeding a diet rich in vitamin B. Parenteral administration is usually followed by prompt and often striking improvements. The cardiovascular disturbances early return to normal. There is diuresis and a lessening of the dyspnea and a sense of well-being. Later there is a reduction in the size of the heart and finally a disappearance of the alterations in the electrocardiogram. The promptness of the relief of the cardiac symptoms and the restoration to normal suggests that the cardiac disturbance may be functional rather than organic. In normal subjects and in those with diseases other than vitamin B_1 deficiency, even large doses of thiamin chloride produce no noticeable effect. At the present time it appears to be good therapeutic practice to administer vitamin B_1 in adequate amounts to patients with indefinite cardiac symptoms, particularly if there is a history of dietary deficiency. The symptomatic treatment is notoriously unsuccessful. Bed rest leads to some improvement just as it does in most cardiac conditions. The effect of diuretics in the reduction of edema, when edema exists, is negligible. Digitalis is ineffective and the patients apparently get along as well without it.

Progress in the recognition of vitamin B_1 deficiency states in human beings has been hampered by the lack of simple and reliable laboratory tests. As a result, clinicians have been forced to resort to the therapeutic test. Studies are now being made on the glucose tolerance, gastric acidity, roentgen changes in the small intestine, capillary fragility, *et cetera*. Reliable chemical methods will doubtless soon be perfected permitting the analysis of blood and urine for their vitamin B_1 content. These will be invaluable in making prompt and accurate diagnoses.—*Hightower, Texas State J. Med., May* '43.

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TREATMENT OF THE ASTHMATIC ATTACK

Rackemann[1] has written an excellent article on the most difficult subject of relieving the patient who is undergoing the tortures of an attack of asthma. Lack of space compels us to omit all references to his paragraphs on diagnosis and etiology except these lines—"Perhaps the most helpful point is the age of onset. When asthma begins before the age of thirty years the chances that allergy is the cause are good, but when asthma begins after the age of forty-five years the chances of allergy are small and in such patients the asthma is usually intrinsic."

The eminent Boston investigator then comes to grips with the problem of how best to bring about relief. "Let us first assume that a patient has asthma which is due to spasm and edema of the bronchial mucosa, with exudate in the large as well as the small tubes. . . The patient is sick and in trouble. If he is at home and the asthma is not too severe, it may be well to leave him at home. If the history reveals evidence of allergy as a reasonable explanation, one should study the environment closely. To get rid of the dog and cat, to change the mattress and pillow, or even to move the patient into the next room—such simple measures may accomplish wonders. The administration of epinephrine is indicated. . ." The author asserts that "if bronchospasm is present, epinephrine should bring relief." And he tells us that the first dose of this drug is often much too large and warns us against the disagreeable and dangerous effects that follow large doses. "On the other hand, the small dose which is quite enough to relieve bronchospasm will thereby relieve the burden on the heart and do great good even if coronary sclerosis is present to some degree. A dose of 0.5 cc. (8 minims) is almost always effective and most patients are relieved by as little as 0.4 cc. (6 minims) or even 0.3 cc. (5 minims)."

Rackemann advises that "if the asthma is severe, then the patient had best be moved to the hospital. Such a move is in itself an important step in the treatment. It eliminates all domestic dusts in one maneuver; it brings the patient to a new atmosphere of peace and quiet; it provides a nurse to give adrenalin without difficulty or delay; and it restores his confidence. A great fault in the management of asthmatic cases is not to recognize the full importance of hospital care."

Rackemann tells us that "the action of aminophylline in asthma is not clear but it is said to stimulate both heart and kidneys and to increase capillary permeability. It is often quite effective and can be given in various ways. The most effective method is to inject intravenously the contents of an ampule which contains grains 3¾ dissolved in 10 cc. of water. The injection should be made slowly and usually brings results within fifteen or twenty minutes. Aminophylline by mouth is not so useful but can be tried."

"Occasionally one sees a patient with severe asthma who has not responded to epinepherine administered hourly before his admission to the hospital. Aminophylline also has been injected at least once, without effect. Such a patient is in real distress. He is pale and sweaty. His pulse is rapid. He cannot lie down. Rest is out of the question. He can neither eat nor drink, his bowels have not moved and urine is scanty. His tongue and mouth will be found to be dry. He needs water and there is reason to think that he needs salt and sugar also. In such a

1. Rackemann, Francis M.: The Treatment of the Asthmatic Attack, M. Clin. North America, 26: 1501 (September) 1942.

case, the best treatment is to inject intravenously by slow drip a large amount (1500 cc.) of 5 per cent dextrose in normal saline solution. In almost all cases this treatment is successful. . ."

And we come to the flat statement that "morphine should never be used in asthma. The temptation, indeed the urge, to give morphine is very strong. Fatigue has advanced to exhaustion, apprehension and anxiety are marked, there is suffering and there is coughing often with pain in the chest. The utter misery positively begs for morphine." The author advises against the use of morphine because it depresses the nervous system in general and the respiratory center in particular. "The patient cannot afford to have his respiratory effort compromised by morphine." And also because morphine stimulates the parasympathetic nervous system and actually causes bronchospasm. And "what is said about morphine applies also to codeine and pantopon. These drugs should be forbidden in the treatment of asthma.

"The barbiturates are not quite so dangerous although they too depress the central nervous system. They are objectionable because the patient may be sensitive to barbiturates just as he is often sensitive to aspirin." Rackemann holds that chloral hydrate and paraldehyde are permissible for sedation. And he says that "if the asthma itself can be relieved, sedation becomes unimportant. . ." And he concludes by stating that "the important feature in the treatment of the asthmatic attack is *to know what not to do*" and by advising us to "treat them gently."

Rackemann has long been an outstanding investigator in the field of allergy and his opinion carries much weight. For sometime past the use of opiates and strong sedatives in the treatment of asthma has been decried and apparently the movement against them is gaining strength. But a great many patients insist that morphine alone will give them any relief at all and it will be most difficult for their doctors to dissuade them. This applies especially to that large class of patients who cannot or will not go to a hospital.

"More healthful cities and more efficient and economical cities can be designed if we have the vision and the courage to make bolder comprehensive plans."

OCD ADVISES GAS CLEANSING STATIONS AT HOSPITALS

Hospitals should make complete plans for the immediate establishment, when needed, of "gas cleansing stations" for the care of injured persons who have been exposed to war gases, the Medical Division of the Office of Civilian Defense advises in Operations Letter No. 124. Large communities should establish at least one gas cleansing station without delay for training purposes.

The OCD recommends that the term "gas cleansing" be used to describe the procedure of removing vesicant liquids from persons and that the term "decontamination" be reserved for areas and objects.

The primary purpose of gas cleansing stations is the protection of hospitals and casualty stations and their staffs and patients from contamination by injured persons who have been exposed to vesicant agents, the Operations Letter points out. Contaminated persons who are not disabled are expected to cleanse themselves in the nearest private home or in other local facilities.

Existing facilities in casualty receiving hospitals must be converted into gas cleansing stations, it is pointed out, since, under present conditions of scarcity of materials and manpower, construction of new facilities is generally not justified. Hospital facilities that should prove suitable are suggested as follows: hydrotherapy rooms, nurses' or internes' locker and shower rooms, part of the outpatient department, garages or other separate structures. In the event these are not available, facilities to care for persons who are both injured and contaminated must be arranged in schools, gymnasiums, swimming pools, shower rooms, club houses and community centers.

Cleansing stations should be equipped to take care of one-third to one-half of the hourly casualty receiving capacity of the hospital to be served, the OCD recommends. The professional staff will consist of Mobile Medical Teams assigned when the station is activated, supplemented by additional attendants from the Emergency Medical Service. In addition to cleansing and emergency treatment, the staff of the gas cleansing station will assist in undressing the injured, moving stretchers, caring for clothing and valuables, maintaining supplies and dressing wounds.

TRANSACTIONS OF THE ASSOCIATION

1943 SESSION

(Concluded)

Last Day, Thursday, April 22

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 8:30 A. M. by the President, Dr. H. B. Searcy.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell of Huntsville.

THE SEVENTIETH ANNUAL REPORT OF THE STATE BOARD OF CENSORS, INCLUDING ITS REPORT AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS A STATE COMMITTEE OF PUBLIC HEALTH

E. V. Caldwell, M. D., Chairman

The State Board of Censors, in conformity to constitutional mandate, has the honor to submit to this Association its Seventieth Annual Report.

PART I

AS A STATE BOARD OF CENSORS

Medicine and the War

PROCUREMENT AND ASSIGNMENT SERVICE

During 1942 the program for procurement and assignment of physicians was placed in the Office of Emergency Management of the War Manpower Commission directed by the Honorable Paul V. McNutt. Your Board of Censors continued to serve as the state committee with the State Health Officer acting as chairman.

All requests concerning the availability of physicians for service in the armed forces are made by the War and Navy Departments to the National Office of Procurement and Assignment Service. Clearance is then made by the state chairman after recommendation is made by the local committee. When a physician is being considered for classification by the Selective Service System request is made as to whether his services are considered essential in his civilian capacity.

Three hundred-nine physicians have been called to active duty with the armed forces. Two hundred-forty-three of these were engaged in the practice of medicine, seventeen were doing public health work, twenty-one were licensed and serving as internes and residents in hospitals, and twenty-one others were called from interneships and residencies in hospitals before receiving Alabama license. Three physicians have received honorable discharges from military service and four have died while in the service of their country.

The unprecedented and unpredictable increase in the population of certain war boom communities and the call of local physicians to active duty in the armed forces have caused a critical shortage of physicians to render adequate medical care in these areas. Efforts have been made to relieve the situation through the relocation of physicians. In December 1942 an operating policy on matters relating to shortages of medical and allied personnel relationships with corps area and state procurement officials and functions of the Division of State Relations of the United States Public Health Service in this field was agreed upon. Agreement was made "that the first urgent step is to insure that there is at least one active physician to each 3000 people." Further agreement was that "The United States Public Health Service and the Procurement and Assignment Service will jointly undertake studies of war industry, and extra cantonment areas from which shortages of medical and allied personnel are reported." Joint surveys were made in Anniston, Childersburg, Gadsden, Huntsville, Mobile and Talladega. The findings and proposed recommendations were discussed with a group of citizens representing industry, labor, physicians, dentists and veterinarians, and reports of the joint studies were sent to the Central Office and Corps Area Headquarters of Procurement and Assignment Service and to the Surgeon General of the United States Public Health Service. Forty-six physicians have moved into communities where shortages existed. Some of these relocated from Alabama areas and others came from outside the State.

HEALTH WORKERS IN SERVICE

Seventy-five persons employed by the State and County Health Departments have been called to active duty with the armed forces. Twenty-seven of these were public health nurses, twenty-six were public health engineers and sanitation officers; three were employed in the Bureau of Vital Statistics, one of whom was its director; one was a bacteriologist, one an x-ray technician and seventeen were physicians serving on the staffs of the state and several counties. It is interesting to note that there are only 12 county health officers employed in the state who are under forty-five years of age and physically qualified to serve with the armed forces. These are all serving in key counties and 6 of them each serve two counties.

In spite of this loss of personnel to the armed forces, however, thanks to federal assistance, there were 102 more public health workers in Alabama January 1, 1943 than on the same date one year previously. This is due to the problems

that have arisen in war areas and efforts of the federal agencies to provide as much health protection as possible to members of the armed forces and war workers.

STATE DEFENSE COUNCIL

The Alabama State Defense Council was established long before the onset of the present war, the members being appointed by Governor Frank M. Dixon on January 16, 1941. However, the event of December 7 resulted in considerable expansion of its activities. Late in February the need for a full-time physician to work throughout the State on the medical aspects of civilian defense was recognized and provided for.

It is evident at once that the care of casualties from enemy action and the protection of public health is one of the most important parts of civilian defense.

These functions must, of necessity, fall on the shoulders of individual physicians, nurses, health departments and hospitals in the State. No state or local organization can hope to cope with the problems that might be created without the complete cooperation and assistance of these groups. The response to these needs by the medical profession is worthy of some attention.

In the larger centers of population there are 27 well-organized emergency medical services. Personnel reports from 12 of these organizations show that there are 286 doctors and 429 nurses enrolled in the field service alone. In addition to those on which reports are not current, there are also many physicians and nurses serving in casualty receiving hospitals. Some of our physicians are acting as local chiefs of the emergency medical service and have donated countless hours in organizing this service in their community. In smaller cities and towns in the State where elaborate organization is not needed or is impractical, many more physicians and nurses are ready to put time and effort in this work should the need arise.

The hospitals too have made many contributions. A system of emergency base hospitals has been established to provide for casualties from the casualty receiving hospitals in target areas. The hospitals have cooperated with the American Red Cross and the Office of Civilian Defense in training hundreds of nurse aides. Today these women are rendering an invaluable service in many communities and the value of their services will be appreciated even more in the future when the needs of the armed forces and industries further deplete the nursing staffs of our hospitals.

Physicians and hospitals have worked together in many communities in the establishment of plasma banks. On April 1, 1942, there were eighteen banks in Alabama processing plasma. Banks in four other cities need only minor items of equipment before starting the processing of plasma. Two other cities are making arrangements to establish banks. Grants made available by the U. S. Public Health Service have been given to six of the banks. These six banks will eventually have available (within a period of three or four months) a reserve of 1,900 units of plasma. In addition, the non-grantee hospitals at present have reserves of about 1,000 units. Further expansion is planned. The Office of Civilian Defense through the U. S. Public Health Service has also sent 750 units of plasma into the State. These reserves of plasma will be invaluable in treating casualties from enemy action as well as victims from other types of disasters. In addition, the use of the plasma in day to day practice has already been responsible for saving many lives in Alabama.

Mention should also be made of the part played by our health departments. Several health officers are local chiefs of the emergency medical service. Health department nurses are also active and many of them are acting as nurse deputies in their communities. Sanitation officers are assisting in making plans for supplying emergency sanitation facilities and several are serving as senior gas officers.

All this has been accomplished despite the fact that Alabama is suffering a shortage of physicians and nurses and has an inadequate supply of hospital beds. Although there are other states that may have a better emergency medical service than Alabama, this has been true only because they have had many more physicians, nurses and hospitals to begin with and because they have spent a great deal of money in building up this service. Taking such factors into consideration, the medical profession in Alabama has done an excellent job. This does not mean that the emergency medical service is perfect because much more must be done. The responsibilities of this war fall heavily on the physician both at the front and at home.

Work of Federal Agencies

FARM SECURITY ADMINISTRATION

The following letter was sent by Dr. Caldwell October 14, 1942 to the secretaries of county medical societies:

"You have received, through the Secretary of the Association, under date of October 7, the health service program of the Farm Security Administration for 1943. Supplementary to Dr. Cannon's letter of transmittal, I want to give you the following advice.

"The State Medical Association at its last session instructed the Chairman of the Board of Censors to call a committee meeting of physicians representing the several sections of the State to work out a more satisfactory memorandum of understanding governing the medical care of FSA clients. This committee was called and met in the office of the State Board of Health on October 5th, with the following members present:

Dr. M. S. Davie	Dothan
Dr. K. A. Mayer	Lower Peach Tree
Dr. French Craddock	Sylacauga
Dr. J. Paul Jones	Camden
Dr. B. W. McNease	Fayette
Dr. J. S. Tillman	Clio
Dr. J. O. Morgan	Gadsden
Dr. Sam Hardin	Tuscaloosa

and the writer. FSA was represented by Mr. George Montgomery and Dr. J. A. Markley, of the District FSA Office. In addition the State Health Officer and the Secretary of the Association were asked to sit with the committee in an advisory capacity.

"As you have noted from the health service program, furnished you by Dr. Cannon, FSA is offering for 1943 a more liberal agreement than has prevailed before, making it uniform throughout the State so that every county will have the same base family pay. This is of special interest to those counties that have had a lower base pay heretofore. Further, the base family pay is higher than has prevailed in any county previously and this should prove interesting to all participating counties.

"There is a family pay of two additional dollars for dental care this year, if dentists enter into agreement with FSA. This, however, is not taken from the agreement with physicians but is a direct one between FSA and the dentists, county medical societies having nothing to do with this aspect of the program. This is a distinct advantage since dental work will be available without encroachment on money allotted physicians for the medical care of FSA clients.

"The division of monies set up for medical care of these clients and the manner of their expenditure are left up to the physicians of the participating counties.

"The committee instructed the Chairman to send a copy of the skeleton proposition made by FSA to the several county medical societies for action by them before the first of the year, and it is this that you have received through the Secretary of the Association. If an agreement is entered into by your society, it should be built around this skeleton agreement and ready for operation by January 1, 1943, so that physicians and FSA county officials can begin paying bills the first month of the year. Thus no one will have to wait for pay for work done the first months of the year, as has been the case in many counties heretofore.

"The Chairman wishes you to know that every physician requested to serve on this Committee accepted and attended. They served cheerfully and therefore deserve the thanks of the entire Association."

The skeleton proposition made by the Farm Security Administration, to which reference is made in Dr. Caldwell's letter, is the same as heretofore submitted except that there is set aside an annual sum of $18 per family for the general practitioner and drugs, and $2 to $7 a family for specialist and hospital care.

The following is a report of Dr. J. A. Markley, District Medical Director of the Farm Security Administration, for the year 1942:

"The Farm Security Administration and the clients participating in the medical care programs throughout the State wish to express their appreciation to your Association for the cooperation of its members and especially to Dr. E. V. Caldwell, Chairman of the Board of Censors; Dr. B. F. Austin, State Health Officer; Dr. Douglas L. Cannon, Secretary of the Association; and the members of the committee representing you in working out the agreement for the group medical programs covering low income families for 1943.

"This program and the progress made by this group of small farmers was made possible to great extent by your state organization through the action taken by the State Board of Censors January 12, 1938, when it adopted certain policies relative to the medical and surgical care of clients of the FSA. A sick man, as you know, cannot be rehabilitated or help the war effort unless his ailment is corrected. Each year has shown an increase in numbers of counties with an organized medical care program and an increase in farm families receiving more adequate medical care. When the crisis came these families were in better physical condition to do the job, thanks to you, and they are doing it.

"Dental care programs of limited services are in operation in thirty counties in the State. These dental programs take care of simple fillings, extractions, cleaning and gum treatment. They are operated in cooperation with dentists just as your medical program operates with the physicians. The dental program plays an important part in the health program. We are ever mindful of the tremendous load that the general practitioners left at home have to shoulder. Also, of the shortage of doctors in most of our rural counties. We are doing what we can to help protect our clients' health, and appreciate what you are doing for them. We realize that the farmers are facing the most difficult and important job in agricultural history. Food is a powerful weapon, essential to victory. Our farmers and their families will have to work longer and harder hours in 1943 to keep up the progress made in 1942. This work will fall largely upon older men, women and children. This fact increases the importance of the group medical programs. The clients in counties without programs are interested in organizing programs. The Food for Freedom Program is well under way for 1943. Fifty-five per cent of our operating capital loans for 1943 will be used for Food for Freedom items.

"The doctors in 1,074 counties representing 44 states throughout the United States help make the production record on Food for Freedom possible through medical care programs similar to the *forty counties operating in Alabama.* They are keeping the small farmers with the large families on the battle line of food production by keeping them well."

WORK PROJECTS ADMINISTRATION

Four hundred sixteen (416) workers and 12 supervisors were employed by the Work Projects Administration of the Federal Works Agency to assist in clinics, hospitals, health education and the Bureau of Vital Statistics of the State Health Department in 1942. One hundred seventy four (174) of these workers and 4 supervisors were placed in health department venereal disease and maternal and child health clinics in forty-four counties; twenty-seven workers and one supervisor were assigned to the health education project and one hundred seventy-two workers and six supervisors were assigned to three hospitals in Birmingham and Mobile to assist and receive training.

In addition to these direct services the Division of Visual Education of the Work Projects Administration gave valuable aid to the health education program by preparing, at cost of materials, many charts, diaramas, drawing and maps for use of health department personnel.

The Women's Field Army

The following report of the activities of the Alabama Division of the Women's Field Army of the American Society for the Control of Cancer has been made by its State Commander, Mrs. Ray Meade, Birmingham:

"In 1936 the American Society for Control of Cancer created as a part of its activity a national body of women known as the Women's Field Army. This Women's Field Army is not a temporary or vulnerable movement unable to face the challenge of the times, but is a well integrated organization in practically every state of the Union.

"The main purpose and objective of this group is education of lay persons concerning the danger signals of cancer, what to do about them, and what the outcome of prompt action may be.

"The American Society for Control of Cancer was itself organized in 1913 for the purpose of education in the field of cancer control. Campaigns featuring literature about cancer, exhibits, etc. caused a slow but increasing interest in fighting cancer. Cancer committees of state and county medical societies began to come into being. Throughout this development several medical field representatives of the Society were moving about the country stimulating and directing local interests and activities wherever it was desired. The importance of cancer committees of the state medical societies cannot be overestimated.

"It is with a great deal of pride that this organization points out that April has been designated as cancer control month by special act of Congress, which authorized the President of the United States to issue a proclamation to that effect. During that month special emphasis is placed on the work of the Women's Field Army, and at that time the annual enlistment campaign takes place. The money that is raised is used to further the educational effort of the Women's Field Army as illustrated by the work done in the schools of Alabama this year. There was placed in every junior and senior high school of the State a book entitled *Youth Looks at Cancer*. This well-written book is for just that age group and is being followed up with a brochure for teaching cancer information in diversified ways. For example, the study of radium can be taken up in the chemistry class, the life of Madame Curie can be the subject of a composition in the English class. This is what we hope will be the beginning of a long range program in our schools, a program which will show results in five or ten years.

"The organization heads of the Women's Field Army, Alabama Division, consist of a state commander, one district commander for each of the nine congressional districts, and a county captain for each one of the sixty-seven counties. Many lieutenants assist in further organization so that every town and city may be afforded the opportunity to hear the battle cry of the Women's Field Army—"Early cancer is curable." We talk to as many groups, both of men and of women, as will allow us the opportunity, emphasizing the importance of a yearly physical examination and the recognition of early cancer symptoms. In every county during the present year an attempt will be made to secure a worker for this organization.

"The Women's Field Army is actively sponsoring the Cancer Clinic Bill of the Committee on Cancer Control of the State Medical Association and the State Health Department. We realize that an educational program can never fully accomplish its objective in a state which is unable to care for its indigent patients when they attempt to follow the advice given—to have an early diagnosis and treatment.

"It is the pledge of this organization to keep striving until the old fear of the word *cancer* is obliterated, and until Alabama has a cancer control program of which it can be proud."

The resume' of the history and objectives of the Women's Field Army of the American Society for Control of Cancer, Alabama Division, merits the earnest consideration of this organization. The cooperation of this volunteer organization has been deeply appreciated by the Association's Committee on the Control of Cancer and every member is urged to give support to efforts being exerted to bring attention of the laity to the importance of early diagnosis and prompt effective treatment of this dread malady which is causing so many untimely deaths.

Endorsement of the Women's Field Army

The following endorsement of the Women's Field Army, after presentation by Dr. J. P. Chapman, was referred to the Board of Censors:

"The disease of cancer, in less than half a century, has steadily increased until now it ranks second among the causes of death. Deaths numbering 160,000 occurred in the United States last year, more than one half the number of deaths resulting from all the wars of this country. This forcefully emphasizes the significance of this ravaging disease and adds impetus to our vigorous efforts in its control. The fight against cancer must be continued through the combined endeavors of two agencies, educational program and therapeutic measures. Full appreciation must be given the organized efforts and sustained educational program of the American Society for the Control of Cancer, in its dispelling ignorance, fear and superstition, and in disseminating helpful knowledge about this dreaded disease. In this respect, the state division of this national society, known as the Women's Field Army, by its enthusiastic and tireless efforts, its intense interest, its self-sacrificing spirit, its resolute courage, has contributed immeasurably to this educational campaign.

"In Alabama we have an active and vigorous division of the Women's Field Army under the leadership of Mrs. Ray Meade, the State Commander. It is appropriate and fitting that the Medical Association of the State of Alabama wholeheartedly endorse the Women's Field Army, and encourage these women in every manner possible, so that the educational campaign in the fight against cancer may not only be fruitful, but be the means of bringing added blessings to the citizens of our State."

The Board recognizes and appreciates the valuable assistance rendered the Association's Committee on Cancer Control by the Alabama Divi-

sion of the Women's Field Army of the National Society for the Control of Cancer. It, therefore, heartily approves the endorsement of this organization by the Association.

The Association unanimously approved the endorsement of the Women's Field Army.

Research and Special Activities

Laboratory for rabies research

This study is conducted by the International Health Division of the Rockefeller Foundation in cooperation with the Alabama State Board of Health.

The program of the rabies laboratory during 1942 has centered as in previous years on a general study of rabies and its epidemiology and prevention. A study of primary atypical pneumonia was initiated in January 1942, and is being continued.

Because the rabies laboratory is the only place in Alabama equipped to do virus research, it can be of service to both the State Health Department and the Army Medical Corps in the diagnosis of virus infections. This involves primarily the inoculation of mice with animal brain material or the testing of spinal fluid specimens from human cases of encephalitis for the presence of viruses pathogenic for mice. The complement fixation test for the diagnosis of certain virus diseases, notably lymphocytic choriomeningitis, will be studied so that if it proves practicable the State Health Department may be able to offer a virus diagnosis service.

This laboratory is the only one in the United States actively engaged in a general study of rabies. There has been an increasing number of requests for advice on problems related to rabies. This service will become increasingly valuable as accurate information concerning the disease is accumulated.

Incidence of rabies in Alabama during 1942: Since the introduction of dog control legislation in 1937 there has been a rapid reduction in the state-wide prevalence of rabies. In 1942 the disease was practically limited to three counties and forty-five counties reported no rabies during the year. Eight counties reported only one case of rabies in animals. Eleven counties reported from one to four cases of animal rabies. The other three counties accounted for 181 of the 220 cases of animal rabies reported during 1942 in Alabama. Twelve counties failed to appoint a rabies inspector and enforce the Alabama Dog Control Act. These counties accounted for 88 per cent of all reported cases of rabies in the State. There were two human cases of rabies during 1942, the one in Colbert County and the other in Lawrence County.

Mobile County is now the principal focus of the disease. In 1942 a total of 157 animal heads were found positive for rabies in Mobile County and 460 persons were given the antirabic treatment.

It has been clearly demonstrated that where the Alabama Dog Control Act has been enforced rabies has been eliminated except for occasional instances where the disease has been reintroduced due to the arrival of dogs from infected areas. It must be emphasized that the elimination of stray dogs is the most important factor in the control of rabies. Vaccination of owned dogs cannot by itself eliminate rabies. It is designed primarily to prevent exposure of persons to rabies from their own dogs and then, too, if all owned dogs are vaccinated it makes it difficult for the disease to become reestablished in the community. Until the entire State is free of rabies it is important that all dogs be vaccinated so that if the disease is brought into a county normally free of the disease it will not suddenly spread and so lead to numerous exposures of people and serious loss of livestock.

Rabies in wild animals: It has been repeatedly shown that when foxes become abundant, rabies is almost sure to become epizootic in that species. This is to be expected as when the foxes become numerous they range farther in search of food and are then liable to come in contact with dogs. Once established the disease spreads rapidly among foxes. During the past few years hunters and rangers in the wildlife service have noted that foxes have become unusually numerous in the Southeastern States. In 1940 a ranger in the wildlife service estimated that there were over 500 foxes in Burke County, Georgia. Rabies appeared in the foxes in that county in July 1940, and spread rapidly. Many persons were bitten by rabid foxes and there was a heavy loss in livestock from rabies. An intensive program of hunting and trapping was instituted. This laboratory cooperated with the Georgia State Board of Health in a survey of fox specimens and a total of 150 foxes were found positive for rabies. The disease was quickly brought under control by a drastic reduction in the number of foxes. There were a few isolated cases of fox rabies in Dale, Henry and Houston Counties of Alabama during 1941. A total of eight foxes were found positive for rabies. Fox hunts were sponsored by the fox hunters association and this probably brought about the quick termination in the spread of the disease. In the fall of 1942 a severe epizootic of rabies developed in Dale County, Georgia, and by the end of the year over 100 cases of fox rabies had been reported. The epizootic has extended into the adjoining parts of Alabama and Tennessee. In the latter part of 1942 another fox rabies epizootic developed in Mobile and Washington Counties in Alabama. To date several people have been attacked and bitten by rabid foxes and many domestic animals have died of rabies. This emphasizes the importance of not protecting wildlife to the extent that it may serve as a reservoir of rabies which may prove difficult to eradicate.

Clinical studies of rabies in dogs: One of the important facts learned about rabies in dogs is that during the early stage of the disease the animal is apt to become unusually affectionate. Despite apparent friendliness the dog is very irritable and restless and will bite at slight provocation. Children are very apt to be bitten by dogs during this stage of the disease because they are attracted by the friendly actions of the animal and will pick up and fondle the affection-

ate dog. Due to the restlessness and excitability provoked by the disease the dog will not allow restraint and will bite quickly and savagely if not promptly released. Dog bites occurring as the result of this type of exposure are apt to be disregarded by parents as the dog does not show typical symptoms of rabies. This is especially dangerous as adequate local treatment of the bite wound is of paramount importance.

Experimental studies of canine vaccination: Repeated tests of commercial rabies vaccine have shown no definite superiority of chloroform-inactivated vaccine as compared with phenol-inactivated vaccine of the same tissue concentration. However, better and more consistent results have been obtained with the chloroform-inactivated product in repeated tests of various commercial vaccines. Of a total of 120 dogs given a single subcutaneous injection of this type of vaccine and tested one month later by intramuscular inoculation of rabies street virus only eight (7 per cent) died of rabies, compared to eighty-one deaths (61 per cent) among 132 control dogs. During the past year a study of the keeping quality of rabies vaccine was completed. A single lot number of chloroform-inactivated vaccine was tested in dogs 4.5, 10.5, and 16.5 months after preparation. In all three tests the vaccinated dogs developed a highly significant degree of resistance to experimental infection with rabies street virus. In the course of this study it was noted that most of the vaccinated dogs dying of rabies were under one year of age. A restudy of previous experiments showed a similar result. This correlates with the finding that it is difficult to immunize immature mice against rabies. A study of the two injection method of vaccination was also completed in 1942. The vaccinated dogs were given two weekly subcutaneous injections of 5 cc. of chloroform-inactivated vaccine and tested one month after the first dose of vaccine by intramuscular inoculation with rabies street virus. Though the vaccinated dogs showed a high rate of protection, the results were no better than that obtained with one injection of vaccine. It is possible, however, that immunity following two doses of vaccine may be more persistent and this problem will be investigated.

Studies of the alteration of tropism of rabies virus: The Pasteur strain of rabies virus fixed for rabbits by prolonged intracerebral passage rarely is able to invade the salivary glands of experimentally injected animals. In contrast to this, street virus will quite consistently do so. There is good evidence that the cyclical variation in virulence of street virus depends on natural alteration in the tropism of the virus for the salivary gland tissue. Experiments are being continued designed to determine the factors which bring about this alteration of tropism.

A strain of rabies virus isolated from a human case of rabies has now been through 100 serial intracerebral passages in baby chicks. The primary objective of this study is to obtain a fixed virus for chicks so that vaccine can be prepared from chick tissue. This strain of rabies virus has shown a gradual decrease in pathogenicity for dogs and rabbits.

Serologic studies: It has been found that virus neutralizing substance is developed in the blood serum of persons given the antirabic treatment. This substance first appears in the blood between the fourteenth and twenty-first day after the beginning of the treatment. In some persons the maximum titre of virus neutralizing substance does not appear until twenty-one to twenty-eight days after the beginning of the treatment.

Experiments are now under way to determine how soon complement fixing antibodies are produced after the onset of clinical symptoms of rabies in order to find out whether the complement fixation test is of diagnostic value. A comparison will also be made between the complement fixation test and the serum-virus neutralization test as an index of immunity to rabies.

EAST ALABAMA HEALTH DISTRICT

The report of the services rendered in the counties making up the East Alabama Health District is included with that of the Bureau of County Health Work.

The cooperative project with the Commonwealth Fund in promoting the East Alabama Health District was brought to a close June 30, 1942. The following letter addressed by Dr. Clarence L. Scammon, Director, Division of Public Health of the Commonwealth Fund, is self-explanatory.

"It is a matter of record that on January 1, 1938 the State Department of Health, in cooperation with the Commonwealth Fund, chose seven counties (later increased to thirteen) in East Alabama for an experimental program, having the following objectives:

1. The development of a more adequate health service in these counties;

2. The provision of advisory and specialistic services, and determination of the best method, and intensity, of application of these services, and

3. The development and operation of a field training center.

"Despite the expenditure of $169,158.70 (of which the State contributed 56.8 per cent) in the four-year period that ended December 31, 1941, the objectives, with the exception of the 3rd, have not been attained, in my opinion and that of the Director of County Health Work and the Director of the District. In view of this and the fact that it is impossible to procure personnel for the specialistic services referred to, it seems that the time has come for a dissolution of the plan now prevailing. Rather than have the District limp along in a fruitless sort of way, it appears wise to abandon the project, at least during the period of the emergency. It has been decided to relieve the Commonwealth Fund of its grant to the District, with the close of business on June 30, 1942.

"Occasion is taken to express the State Department of Health's gratitude to the Commonwealth Fund for its helpful cooperation, financial and advisory, so freely given to the District. It is to be regretted that the objectives of the program of the District could not be attained."

FELLOWSHIP IN PUBLIC HEALTH OBSTETRICS

The training course in public health obstetrics which was started in August 1941 has had to be

discontinued for the duration due to the fact that the younger physicians who would be available for the fellowships are in the armed forces. It is contemplated that the training course will figure largely in the postwar planning for maternity care, as the training of obstetric consultants for state health programs will be even more important, and many of the physicians will need refresher courses on returning to civilian life.

Dr. Walter Gerstle completed the fellowship March 1, 1943. He attended the training course for health officers which was made a part of the fellowship training course. This was followed by field visits with the district health officers and the nutritionist. He attended the course on treatment of venereal diseases for clinicians at Mobile. A week was spent at each of the special projects: Slossfield Maternity Center, Cullman Nursing Service, and the Macon County Maternity Service and Nurse Midwife School. Field visits were made to the maternity clinics by the trainee who was given an opportunity to work in the clinics with the local clinicians. All sections of the State were visited during this time. The trainee had an opportunity to see the mechanics of starting new clinics.

Though it was possible to have only one trainee because of the wartime conditions, it is felt that the need and value of a training course in public health obstetrics were amply demonstrated. Regular visits to the maternity clinics by the trainee proved of value both to the trainee and the clinic. A number of trainees, supervised by the obstetric consultants, would prove valuable in the development program of adequate maternity care.

SLOSSFIELD MATERNITY SERVICE

This service for Negro women, inaugurated in July 1940 in Jefferson County, was extended and expanded during 1941 and continued during 1942.

During 1942, there were 1,220 patients admitted to the clinics. There were 711 antepartum cases and 315 postpartum. Of the 711 antepartum patients, 194 or 27.2% had syphilis and were given 1,655 syphilis treatments.

There were 401 patients delivered, which is a decrease of twenty-eight in the number delivered in 1941. Of the 401 deliveries, 211 were in the homes and 190 at the hospital.

It is estimated that each home delivery cost $49.15, and the cost per patient day in the hospital was $3.70.

One mother, delivered at the Slossfield Center died at the Hillman Hospital five weeks later of tuberculous peritonitis. There was no other maternal death among clinic patients.

The patients made 5,928 visits to the clinics, and the nurses made 7,824 home nursing visits.

In 1941 the nurse staff went on generalized duty, and the result of the six-month period justified the change from the specialized program.

SCHOOL FOR NURSE-MIDWIVES AT TUSKEGEE

This school was started in September, 1941 and has continued through 1942. Qualified colored nurses are accepted as student nurse-midwives. The course consists of six months of class work, clinical experience, home visiting and deliveries. Before graduation the students are given three days for observation at the maternity service at the Slossfield Center in Birmingham.

Four students enrolled in September 1941. Three of these graduated in March 1942. One of the nurse-midwives was added to the staff of the Marengo County Health Department to inaugurate a delivery service there. This service has been very satisfactory, and it is hoped that other counties may secure it.

Four were graduated in August 1942, and three returned to Florida. In July 1942, five more enrolled, and these were graduated in January 1943.

The students assist in the maternity clinics at which 504 women were admitted. Of these 343 were cared for by the students at the time of delivery, supervised by the staff nurse-midwife and by the Negro obstetrician.

Including the false calls, 469 calls were answered by the students, an average of 39 calls per month.

CULLMAN COUNTY MATERNITY SERVICE

This plan, started in 1938, permits county public health nurses to assist the practicing physicians in their home delivery cases. A satisfactory plan was adopted by which the nurses could render this service and continue a generalized public health nursing program. Patients must register before the fifth month of pregnancy has passed and are referred by the physicians.

In 1942 there were 1,154 births in Cullman County, and of these 1,002 or 85.3% were attended by physicians and 168 or 14.3% by midwives. There were four or 0.3% unattended births. Births in the hospitals were 253 or 21.5%.

The cases registered with the nursing service were 401 or 34.1% of the total births. The nurses attended 86 patients at delivery. They made 1,705 prenatal nursing visits to 413 cases—an average of 4.12 visits per case. The nurses carried 453 postnatal cases and made 1,401 visits to them—an average of 3.09 visits per case.

There were two maternal deaths—a rate of 1.7—and none of the deaths were from puerperal septicemia.

CHILD SPACING

The child spacing program, under the joint sponsorship of the Committee on Maternal and Infant Welfare of the Medical Association of the State of Alabama and the Alabama League for Planned Parenthood, has made satisfactory progress.

The integration of child spacing as a part of the complete maternity care has justified the plan of considering child spacing as a part of postpartum therapy rather than a separate program. The clinician decides which postpartum patients are in need of contraceptive advice and after examining the patient prescribes the technique best suited to the individual case. In two counties special studies are being made. Every normal patient is being offered the service as a part of her postpartum care to protect her during the following twelve months, as a simple spacing measure. Patients who need spacing because of diseases will be given a different technique and supplies for a longer period.

That Alabama's spacing program which keeps the service in the medical profession has been fundamentally sound is evidenced by the fact that other states are following this plan.

The Alabama League for Planned Parenthood, through its state and county lay organizations, and the patients able to pay a small fee, finance the spacing program. The State League through its field worker has stimulated lay interest in several counties. They have become interested in the program for women in industry and are cooperating with the obstetric consultants in the development of this phase of the work.

The record form designed for use in this work has been placed in several of the clinics where they have volunteered to use it.

There were twenty counties January 1, 1942 where spacing service was available. On January 1, 1943, there were 31 counties, as eleven have added child spacing to their postpartum service during 1942. Several other county medical societies have approved the service, and they plan to start the work in a short time.

THE MEDICAL, NURSING AND HOSPITAL CARE PROGRAM IN MACON COUNTY

This plan was started in 1940 to expand maternal and child health services to the colored population. Clinics are held in various communities, and maternity cases and sick children are hospitalized in the John A. Andrew Memorial Hospital upon the approval of the county health officer as director of the program. There is a full-time Negro obstetrician and the nursing staff, including the nurse-midwives of the county health department, carry on the nursing program. The obstetricians of the Bureau of Maternal and Child Health are available for consultation as well as the three practicing obstetricians in Montgomery.

During 1942 there were 84 deliveries requiring 830 hospital days. Antepartum and postpartum cases numbered 113 and received 1,035 hospital days. There were fourteen consultations on maternity cases and seven on pediatric cases. Sick children given hospitalization numbered 57 and received 2,482 hospital days.

Several emergency maternity cases from other counties were received for hospital care under this program.

MEDICAL AND HOSPITAL OBSTETRIC AND PEDIATRIC CARE FOR WIVES AND INFANTS OF MEN IN MILITARY SERVICE

Alabama's plan for this service was approved by the Children's Bureau, and $5,000.00 was allotted for obstetric cases and $4,995.00 for sick infants. Later, on account of the small number of infants recommended for care, the entire sum of $9,995.00 was made applicable for maternity cases.

Schedules of physician's fees and hospital rates were agreed upon and the plan put into effect in the Montgomery area first, with the idea of extending it if funds were available. Without any effort to advertise the program, it became known in many counties, and the territory was enlarged.

Physicians who were willing to participate indicated their willingness to accept the approved fees. A fee of $35.00 was paid the physician if he had a minimum of five prenatal visits and the delivery. If less than five visits were made the fee was $25.00. He was asked to submit his bill at the end of the six weeks postpartum care. With the bill he was asked to send the maternity case record on the form provided by the State Health Department.

Many difficulties were presented almost at the start. Most of these were ironed out by the Children's Bureau, and applications flowed in. It was seen in January that the $10,000.00 was pledged, and it was necessary to suspend the service pending a further appropriation from Congress.

Obstetric cases were authorized as follows:

September	1
October	11
November	20
December	48
January 1943	102
Total	182

Only three applications for the care of sick infants were received.

This service was granted to the dependents of enlisted men, seventh, sixth, fifth, and fourth pay ratings. A few applications were approved for the staff sergeant or the third pay rating.

Should Congress appropriate funds to put this service on a state-wide basis, the task of organizing it and administering it would be very great. In January there were 70 cases authorized in four counties only. In February this year, after notice was given of the suspension of the plan, on account of lack of funds, 60 or more applications were refused. This merely illustrates the demand there will be for this service.

STATE ADVISORY COMMITTEE ON CHILDREN IN WARTIME

Early in 1942 the State Department of Public Welfare was instrumental in forming the State Advisory Committee on Day Care and invited representatives from other federal and state agencies. The purpose of the committee is to study conditions and needs of children as war and industrial activities affect them and to plan to meet the problems and supply the needs.

Dr. Bessie Mae Beach was the first to represent this Bureau on the committee, then Dr. H. C. Gehrand. When they left the Bureau, the Acting Director was invited to become the member from the State Health Department.

Dr. Beach and Dr. Gehrand assisted the Welfare Department in forming standards for day care centers and nursery schools.

In December 1942, the committee became the State Advisory Committee on Children in Wartime, as a committee of the State Defense Council. All recommendations of the committee are referred to the State Defense Council for final action.

The membership is composed of representatives from the State Department of Public Welfare, State Department of Education, U. S. Employment Office, State Department of Health, Work Projects Administration, Farm Security Administration, State Defense Council, and the Division

of Labor of the Department of Industrial Relations.

THE SOUTHERN PEDIATRIC SEMINAR AT SALUDA, NORTH CAROLINA

As in the past, ten scholarships were available for physicians to attend this two weeks course in pediatrics. Only seven physicians accepted. Though the scholarships were offered through and on recommendations of the county health officers, evidently practicing physicians were too busy to spare the time.

Some who went stated that the course was excellent and of great benefit to them.

The President's Message

The Message of Dr. Harvey B. Searcy is clear and concise, and reflects achievement, character, leadership and faithful service to this Association. In honoring the name Searcy, the Association has been honored to have one represent the medical profession as its standard bearer during this tumultuous year.

The interest shown by the President during his visits to district and county medical society meetings and the enthusiasm with which he went about his important duties emphasize his value to the organization and he will long be remembered for the splendid contributions he has made to the medical profession of the State of Alabama.

The recommendations of the President, requiring amendments to the Constitution of the Association, are submitted without comment because they must remain over for a year and will be acted upon at our next annual meeting.

The Board concurs in the recommendation that "All recommendations to be made by the President should be published in the Journal simultaneously with the program of the annual session one month prior to the annual session."

The Board's action on the President's Message received the approval of the Association.

Reports of the Vice-Presidents

Three Vice-Presidents refer to the medical care program for clients of the Farm Security Administration. There is no doubt that improvement in this program has been made but it is not yet what is to be desired.

The Board recommends that physicians in each county give more thought to this subject and confer with representatives of the Farm Security Administration in those counties where adjustments of the situation are indicated.

Each Vice-President refers to the number of physicians in the armed forces of our country—one of them was called to active duty during the year and the President of the Association appointed a successor. This depletion of our ranks has required increased activities and sacrifices of the remaining physicians.

The Board urges each physician to continue to exert every possible effort to retain the confidence so generously placed in the medical profession of Alabama and measure up to what is expected of him in the war effort.

All the Vice-Presidents have referred to the district and county medical society meetings held in their respective districts. It is beneficial to all who attend when county medical societies have regular meetings with interesting programs. Helpful information and added benefits are likewise derived from attendance at district meetings where excellent programs are enjoyed. The Board, therefore, recommends that at least one district meeting be conducted each year by the Vice-Presidents, and that county medical societies have regular meetings with well planned programs.

Since Vice-Presidents are the field workers of the Association it is urged that full cooperation be given them in their endeavors to promote activities in the interest of rendering modern medical care and health services to the public.

The Board recommends the adoption of the reports of the Vice-Presidents.

The Board's recommendation was adopted.

Report of the Secretary-Treasurer

The fifteen county medical societies having 100% membership of the physicians in their respective counties are to be congratulated. It is desired that more counties will attain this goal. Regret is expressed, however, that only 85.6% of the physicians in the State are members of the Association. Officers of the Association and county medical societies are urged to exert special efforts to secure the membership of every worthy licensed physician.

Grief is expressed because of the death of twenty-eight physicians since the last meeting of the Association.

The Secretary has kept the records of the Association accurately and neatly and the Board recommends approval of his report.

The Secretary's report was approved.

FINANCES OF THE ASSOCIATION

The Board expresses gratitude concerning the large amounts invested in United States Savings Bonds, savings and checking accounts. The Board concurs in the recommendation of the Treasurer that he be authorized to close out the savings account in the First National Bank of Mobile by the purchase of six United States Savings Bonds for $2,250 with a maturity value of $3,000 and the utilization of the balance ($287.84), plus $87.16 from the savings account in the First National Bank of Montgomery for the purchase of a seventh bond for $375 with a maturity value of $500, the bonds to be issued in the name of "The Medical Association of the State of Alabama, a Corporation."

The Board approved payment of $47.53 to Dr. W. D. Partlow for expenses incurred by the Committee on a Four-Year Medical School, and $50 to cover expenses of the Woman's Auxiliary for the year.

The Board recommends approval by the Association of the Treasurer's report, of the official audit of his books, of his recommendation to purchase United States Savings Bonds, and of the two small expenditures approved by the Board.

The Association concurred in the foregoing recommendations of the Board.

DUES OF COUNSELLORS ON DUTY

The Board has had brought to its attention, through the Secretary of the Association, that of seven Counsellors now on active military duty two would be dropped from the College of Counsellors at this meeting because of nonpayment of dues unless Counsellor dues are remitted as in the case of members. The Board passed unanimously the following resolution and recommends its approval by the Association:

That dues of all Counsellors in active military service shall be remitted for the duration and for two years afterwards; that they shall hold over their counsellorships, and the time shall be computed when arriving at their twenty years as Counsellors.

The resolution offered by the Board regarding dues of Counsellors in service was adopted by the Association.

Committee on Publication

Publishing and distributing the Journal and Transactions of the Association to its members constitute the chief function of this committee. The committee published the records and proceedings of the 1942 meeting of the Association as well as the papers which were read at that time. Current information from the State Health Department and committee contributions were published each month. Various subjects of special interest to the medical profession were capably handled by the editorial staff.

The Board commends the editorial staff of the Journal and recommends continued publication of this valued periodical as a record of current events of interest to physicians and a source of information concerning the Association and medical and health activities in the state.

The Board recommends approval of this report.

The report was approved.

Reports of Standing Committees

PUBLIC RELATIONS

The activities of this committee were interfered with during the year because of the call of the chairman to active duty in the Medical Corps of the United States Army. The work in preparing and publicizing legislation for submission to the incoming Legislature has occupied a considerable portion of the work of the committee. Every member of the Association is urged to acquaint himself with the approved legislative proposals and contact Legislators to secure their support.

The Board is in accord with the recommendations of the committee and recommends that the Association approve them.

The Association endorsed the recommendation of the Board.

MENTAL HYGIENE

This committee has pointed out some of the problems experienced in the attempt to meet the psychiatric needs in Alabama. Among these are:

1. Increased responsibilities and opportunities with diminished assets and machinery to meet them;
2. Inadequate appropriations, numerically deficient personnel and crowded buildings provided our public institutions for the adequate treatment of mental illness; and
3. Loss of nearly all of Alabama's psychiatrists to the armed forces.

Regret is expressed because of the inability to continue with the out-patient psychiatric clinics and decision that no new projects can be considered. It is encouraging, however, to know that routine matters are being handled expeditiously, requests for information and advice have been handled promptly, and individual members of the committee have had opportunities to talk to lay and professional groups on several topics related to mental health. Maintenance of contacts with the Alabama Mental Hygiene Society and the Alabama Education Association has been helpful to promote interest in mental health.

The Board concurs in the recommendations of the committee regarding the Four-Year Medical School and the need for adequate laws regulating psychiatric hospitals and boarding homes.

The Board recommends the approval of this report.

The report was approved by the Association.

MATERNAL AND INFANT WELFARE

The report of this committee indicates that considerable thought has been given by its members to the problems confronting the profession in this important service which affects eighty-five per cent of the physicians in the State. The reduction of the maternal mortality from sixty-three per 10,000 live births in 1938 to thirty-nine in 1942, in spite of an increase of sixteen per cent in births, is significant of the fact that Alabama physicians are taking more interest in the protection of women during pregnancy, parturition and the postpartum periods.

The Board can see no indication of the need for a section on obstetrics in the Association, although recognition is given to the importance of this phase of medical practice.

The recommendation to have at least one paper on obstetrics at a general session of the annual meeting of the Association meets with hearty accord of the Board with the suggestion that the President and Program Committee of the Association give deliberate consideration to this important subject.

The recommendation to have at least one paper on obstetrics at every county medical society each year has the wholehearted approval of the Board and it is suggested that presidents of county medical societies see that this is done.

The Board concurs in the recommendation to have at least one paper on obstetrics at each district meeting.

Particular attention is directed to the reference made regarding continuation of physicians serving as clinicians in the maternity and child health clinics in the various counties. It is recommended that continuing interest be manifested by specialists and general practitioners in this activity, even though the services may be rendered at a sacrifice.

The Board recommends adoption of the report as amended.

The report as amended was adopted.

CANCER CONTROL

The report deals primarily with the excellent work being done by the Alabama Division of the Women's Field Army for the Control of Cancer, and the proposed Cancer Control Bill. The Board is gratified to learn of the close cooperation between the committee and the Women's Field Army, and recommends that each member of the Association support the Cancer Control Bill, prepared by the committee, and which will be introduced at the next session of the State Legislature.

The Board recommends approval of this report.

The Association approved the report.

POSTGRADUATE STUDY

The Committee on Postgraduate Study in its report called attention to the fact that under date of October 19, 1942 the Director of the Department of Graduate Medicine of Tulane University had recommended that courses being conducted under the auspices of the University be suspended for the period of the present emergency. At the time of the receipt of this communication the matter was brought to the attention of the Chairman of the State Board of Censors who had authorized suspension of the courses with regret. It will be recalled that the first extension work was begun, on a modest basis, in Alabama in 1935, and it was after the Association had made available $1,000 for the purpose in 1938 that a cooperative agreement was entered into with Tulane University, looking to an expansion of the courses previously in operation. These courses proved to be very popular with the physicians of the State and there was a general feeling that much was being accomplished.

The Committee on Postgraduate Study has suggested that the Association's annual appropriation of $1,000 for postgraduate study be utilized in affording physicians of Alabama the opportunity of attending courses at Tulane with a part or all of their expenses paid.

There has been considerable reduction in the annual income of the Association caused by the action of this body in 1941 in not requiring its members in active military service to pay dues. Because of the present state of war we are all cognizant of the scarcity of doctors and of the greater demands made upon those of us in civil practice. The Board, therefore commends the committee for the fine work accomplished but recommends that the appropriation of $1,000 for postgraduate study be discontinued for the duration of the present emergency.

The Board's recommendation received the approval of the Association.

PHYSICIAN-DRUGGIST RELATIONSHIPS

This committee has received excellent cooperation of a similar committee from the Alabama Pharmaceutical Association. Urgent appeals have been made by both committees to the physicians and druggists for strict observance of the federal and state laws concerning sale and dispensing of habit forming and dangerous drugs.

The Board favors the recommendations of the committee and suggests that each county medical society appoint a committee to work with a similar committee from the local organization of druggists where one exists.

The Board recommends approval of this report.

The report was approved.

FOUR-YEAR MEDICAL SCHOOL

The Board has kept in close touch with the activities of the Committee on a Four-Year Medical School throughout the year, after previously unanimously endorsing the bill drafted by the committee, and has rendered such support as opportunity afforded.

The Board recommends to the members that they continue to cooperate with and support the committee by contacting their representatives in the Legislature, urging them to support the Medical School Bill.

The Board recommends approval of the committee's report.

While not included among the standing committees of this Association, the Committee on a Four-Year Medical School has become one of the most active committees of the Association. It is, therefore, recommended that it be listed as a standing committee of this Association.

The Association adopted the Board's recommendation.

THE ASSOCIATION'S REVISED CONSTITUTION

At its 1939 meeting, the Association authorized the publication of a "Red Book," but cost of publication made compliance inadvisable at the time. In its 1942 report the Board expressed the opinion that the ends would be met, in part at least, if the Constitution as amended could be published in the Journal, and so recommended. In conformity thereto this was done, thus affording all members of the Association an opportunity to review the amendments.

It is now necessary that the Constitution, as amended, be adopted as a whole by the Association, and it is so recommended. In this connection, attention is directed to the fact that the Secretary conferred with the Board regarding the codification and received its approval of the changes involved.

The Secretary: Mr. President, an aye and no vote will be necessary for adoption, but before calling the roll attention is directed to an error appearing in the ordinance on miscellaneous appropriations on page 47 of the Constitution and Ordinances of the Association now in your hands. The figure $300 in the ordinace referred to should be $1000, and since an ordinance may be amended at any session of the Association I move that the figure $300 be stricken from Section 1 of the Ordinance on Miscellaneous Appropriations and that the figure $1000 be substituted for it.

The motion was seconded and carried.

The President: The Secretary will now call the roll on the adoption of the Constitution and Ordinances of the Association as amended through the 1942 session of the Association and as further amended in the matter of miscellaneous appropriations. Those in favor of adoption will answer Aye and those opposed No as your names are called.

Whereupon the roll was called with the following result:

Those voting Aye: *Counsellors* C. T. Acker, Ashcraft, Austin, Barber, Caldwell, Cannon, Carraway, Carter, Cocke, Craddock, Dabney, Daves, Eskew, Ford, Garber, Goddard, Harris, Hatchett, Heacock, Hill of Sumter, Hubbard, Killian, Lester, Lull, E. M. Mason, Mayer, McCaslin, Morgan, Noland, Partlow, Perdue, Redden, Rucker, Searcy, Segrest, Simpson, Talley, Ward, Wilkerson, Wilkinson; *Delegates* Baumhauer, Boulware, Buzbee, Cloyd, Cross, Denney, Evers, Goode, Grayson, Grimes, Hollis, Jones, Kirby, Latiolais, McDaniel, McNease, Murphree, Nelson, Parker, Partlow, Poole, Posey, Salter, Strock, Teagarden, Thomas, Thompson, Toole, Waldrop, White of Barbour, White of Marion, Whitman—total 72.

Those voting No: None.

The President: Seventy-two votes having been cast for adoption of the Constitution and Ordinances as amended and no votes having been cast in opposition, I declare the Constitution and Ordinances as amended through 1942 and as further amended in the matter of miscellaneous appropriations adopted. The Chairman of the Board will continue with the Board's report.

Appeals of Dr. Virginia E. Webb and Dr. John H. Greene

On April 17, 1943 the applications for membership in the Mobile County Medical Society of Dr. Virginia E. Webb and Dr. John H. Greene were considered and balloted upon by that society and both Drs. Webb and Greene received the constitutional number of blackballs or more. That denied them membership in the Mobile County Medical Society.

From this act of the Mobile County Medical Society both Drs. Webb and Green separately appealed to the Medical Association of the State of Alabama for a hearing to show cause why they were not accepted into the membership of organized medicine. These appeals were duly presented to the Association on the morning of April 20th, 1943 and referred to the Board of Censors without discussion.

The Board of Censors accepted the appeals, so referred, as being a matter over which the Constitution of the Medical Association of the State of Alabama gave it jurisdiction, and, after appellants and all parties concerned were notified, and duly issuing summons to those the Board deemed it necessary to summon; giving all concerned the date, place and hour of the hearing; the hearing was held and directed according to the constitutional regulations at two P. M. April 21, 1943 in Room 661, Tutwiler Hotel, Birmingham, Alabama. All members of the Board of Censors were present throughout the hearing and both appellants and all those responding to summons and notifications, to be present, were present.

Each appeal was heard and considered separately and the Board submits the following on each case:

Appeal of Dr. Virginia E. Webb

The Board, after carefully reviewing and giving mature consideration of all evidence presented in the hearing of the appeal of Dr. Virginia E. Webb from action of the Mobile County Medical Society in denying her membership in that society on April 17, 1943, found that there had been no charges filed or evidence presented against Dr. Webb and no constitutional, professional, ethical or moral reasons offered to sustain its act. Therefore, the Board recommends that the Medical Association of the State of Alabama instruct the Mobile County Medical Society to enroll Dr. Webb as a member of that society.

President Searcy: Is there a motion to approve this section of the report as read by Dr. Caldwell?

Dr. J. R. Garber (Birmingham): I so move.

Dr. D. F. Talley (Birmingham): I second the motion.

President Searcy: You have heard the motion that the section of the report of the Board of Censors read by Dr. Caldwell be approved. As many as favor the motion will signify by saying aye. (Votes of "Aye.") Opposed, no. (No response.)

The report of the Board on the appeal of Dr. Virginia E. Webb was sustained.

Appeal of Dr. John H. Greene

The Board after carefully reviewing and giving mature consideration of all evidence presented in the hearing of the appeal of Dr. John H. Greene from action of the Mobile County Medical Society in denying him membership in that society on April 17, 1943 found that there had been no charges filed or evidence presented against Dr. Greene and no constitutional, professional, ethical or moral reasons offered to sustain its act. Therefore, the Board recommends that the Medical Association of the State of Alabama instruct the Mobile County Medical Society to enroll Dr. Greene as a member of that society.

President Searcy: Is there any discussion of this section as read by the Chairman of the Board? Is there any objection to that section? The Chair will hear a motion for its adoption.

Dr. J. R. Garber: I move that it be adopted.

Dr. W. D. Partlow (Tuscaloosa): I second the motion.

President Searcy: All in favor of adopting this section read by the Chairman will please say aye. (Votes of "Aye.") Any objecting will please say no. (No response.)

The report of the Board on the Appeal of Dr. John H. Greene was sustained.

RESOLUTION INTRODUCED BY DR. D. L. WILKINSON

This resolution, concerning physicians being charged with violating trivial traffic laws, reads:

"*Whereas,* In these times of stress the physician is working over time and even though many physicians are old or crippled or diseased, they are still trying to carry on their slogan: 'The public must be served.'

"*Therefore* Be It Resolved by the Medical Association of the State of Alabama:

"First, That all civil authorities in Alabama are respectfully requested for the duration to change, alter or otherwise suspend all laws, rules and regulations whereby physicians are hampered in their work, arrested and fined for trivial traffic law violations, such as parking over time, passing stop signs, etc. No request is made for reckless driving, accidents or speeding, but parking temporarily in forbidden zones, turning without going to street corners, etc.

"Second, That arrests for these trivialities can have no purport in law now, with the scarcity of cars, except to fill the exchequer. They hamper the physician in every way in the expeditious discharge of his duties, his thinking and in the thoroughness of his work. Upsetting time schedules and the nerves of physicians may result in death.

"Third, That the Medical Association of the State of Alabama, composed of law abiding physicians, hereby pledge themselves not to abuse these privileges.

"Fourth, That a copy of these resolutions be furnished the press."

The Board recommends that this resolution be not approved by the Association.

The Board's recommendation was adopted and the resolution was not approved by the Association.

PLACE OF MEETING IN 1944

The following communication addressed to the Board by the Secretary of the Association is self-explanatory:

"Under normal conditions the Association would meet in Mobile in 1944 by invitation from the County Medical Society. However, if the war is in progress a year hence, there is grave doubt that the hotels of Mobile can accommodate the members of the Association. This, coupled with transportation difficulties, leads the Secretary to express the view that the Association should return to Montgomery in 1944; and should this arrangement work a financial hardship on the Montgomery County Medical Society, host to the Association last year, it is recommended that the Association bear such part of the cost of the meeting as the provisions of the Constitution will permit."

The Board concurs in the view expressed by the Secretary of the Association regarding the meeting place for 1944. It is, therefore, recommended that an amount not to exceed $200 be appropriated from the treasury of this Association, to assist in defraying essential expenses incident to the cost of the meeting, if approval is given to holding the meeting in Montgomery.

Dr. Frank Riggs, delegate from the Montgomery County Medical Society, invited the Association to hold its 1944 meeting in Montgomery, and the invitation was accepted.

The Association lent approval to the Board's recommendation in this connection.

LEGISLATION PROPOSED BY THE ALABAMA CHIROPRACTIC ASSOCIATION

The Board acceded to a request for a hearing from the Legislative Committee of the Alabama Chiropractic Association in the interest of the passage of an act by the Legislature of Alabama creating a board of examiners composed of three chiropractors to govern the practice of chiropractic in Alabama.

After mature consideration the Board unanimously passed the following resolution and recommends its approval by the Association:

Be It Resolved, That all who deal with the issues of life and death in the State of Alabama, pertinent to the diagnosis and treatment of disease, shall be adequately trained in the basic sciences (Anatomy, Bacteriology, Chemistry, Pathology and Physiology) related to the same; and

Be It Further Resolved, That all seeking license to thus deal with the issues of life and death in the State of Alabama shall stand one and the same examination of qualification; and

Be It Further Resolved, That all qualified in this manner to deal with the issues of life and death in the State of Alabama shall have the prerogative of using any system or technique they may choose in rendering this service.

The Association unanimously adopted the Board's resolution.

Part I of the Board's report was adopted as a whole.

PART II

REPORT OF THE BOARD OF CENSORS AS A BOARD OF MEDICAL EXAMINERS

In this field of its activities the Board submits the following:

Certificates of qualification granted	83
Number passing examination June 16-18, '42	34
(a) Certificates granted	4
(b) To be granted after interneship	30
(c) Granted after interneship July 1, 1942	21
(d) Received through reciprocity	53
(e) Through Nat. Bd. of Medical Examiners	5
(f) Certificates of qualification revoked	1
(g) Physicians denied narcotic privilege	2
(h) Chiropody renewal certificates issued	35

CERTIFICATES OF QUALIFICATION GRANTED EXAMINATION APPLICANTS

Bishop, Brooks H.
Graham, George S., Jr.
Kessler, Charles R.
Powell, Elizabeth B.

CERTIFICATES ISSUED APPLICANTS COMPLETING INTERNSHIPS JULY 1, 1942

Anderson, Martin N.
Barron, James M.
Belk, James C.
Bilbro, Griff W.
Bolton, Juanita L.
Cale, Edward E., Jr.
Camp, William A.
Gilliland, Martha J.
Grubbs, Roy J.
Kimbrough, B. B., Jr.
Lavender, Claude W.
Matthews, Jane M.
McGehee, Paul D.
Moore, Joseph W.
Newburn, G. W., Jr.
Patton, Thomas H., Jr.
Perry, George T.
Sanders, Elbert H.
Holloway, Hosah S.
Webster, Harry N., Jr.
Wood, William G.

CERTIFICATES TO BE GRANTED AFTER ONE YEAR OF SATISFACTORY INTERNSHIP

Barnes, Everett B., Jr.
Batson, Walter P.
Broadhead, Hal D.
Burttram, Hobson D.
Cameron, John M.
Clemmons, Lowell H.
Cumbie, William G.
Dozier, Slater M.
Gafford, August V.
Gilchrist, Philip P.
Hardy, James D.
Hardy, Julian P.
Harris, William M.
Hodnette, Frank B.
Jackson, Nial E.
Jordan, James L., Jr.
Magruder, T. V., Jr.
Mason, Robert E.
Matthews, Clifford N.
May, Sydney B.
Moore, Edward E.
Nicholson, W. H., Jr.
Reynolds, W. S., Jr.
Richey, Carl B., Jr.
Roberts, William B.
Rodgers, Samuel U.
Sherman, Charles R.
Snoddy, William T., Jr.
Tucker, William C.
Waters, Hinton W., Jr.

RECIPROCITY APPLICANTS RECEIVED APRIL 1942-APRIL 1943

Auten, Will James—Ga. April 20, '42
Barcus, James R.—Texas Oct. 1, '42
Blair, Ezekial S.—Tenn. June 4, '42
Bennett, Herbert W.—Ohio June 4, '42
Casey, Albert Eugene—Mo. Sept. 22, '42
Cost, Guinn Shaw—Tenn. July 9, '42
Cunningham, Joseph A.—N. B. E. Oct. 5, '42
Cunningham, William A.—N. Y. Jan. 27, '43
Daly, Edward Philip—N. Y. Sept. 1, '42
De Janney, N. H.—N. J. Dec. 1, '42
DeRyke, Gilbert R.—Ohio April 20, '42
Dickson, Leon A.—Va. March 5, '43
Dover, Tom Allen—Ga. June 4, '42
Dunn, Milton C.—Tenn. Sept. 19, '42
Ehlert, William E.—La. June 25, '42
Garraway, Charles R.—Miss. April 20, '42
Gay, Francis M.—Ga. July 9, '42
Gilbert, Harold F.—Maine July 14, '42
Greene, John Howard—Va. Oct. 29, '42
Gully, Virgil S.—Miss. Oct. 1, '42
Gumbs, Oliver S.—Tenn. July 9, '42
Haller, Edwin N.—Tenn. July 14, '42
Henderson, Hiliary H. Jr.—La. Jan. 1, '42
Howe, Charles D.—Tenn. June 25, '42
Huckaby, Grady B.—Tenn. Sept. 12, '42
Kelley, Ray H.—Ill. July 2, '42
Kelly, Virgil L.—Va. July 28, '42
London, Irving D.—La. July 2, '42
Lovell, Durward L.—N. B. E. June 4, '42
Lucas, Frank B.—Ill. Oct. 5, '42
Maneval, Karl Edgar—N. B. E. June 27, '42
Marshall, Wallace S.—Wis. March 24, '43
McClure, Herbert C.—N. B. E. Oct. 1, '42
McEver, Edward A.—Tenn. April 20, '42
Meyer, Benjamin S.—Ill. Aug. 10, '42
Moore, James H.—S. C. Dec. 17, '42
North, William E.—Ga. July 9, '42
Nutter, Robert A.—Va. July 3, '42
Patton, William B.—Md. April 10, '42
Pfeiffer, Ralph B.—Mo. July 14, '42
Pitman, James F.—Ga. April 20, '42
Price, Arthur L.—Md. Jan. 6, '42
Reim, Norman H.—Tenn. Oct. 5, '42
Rose, Robert M.—La. Sept. 12, '42
Smelo, Leon S.—Pa. May 23, '42
Spear, Willard H.—N. Y. June 4, '42
Stewart, Russell T.—N. Y. Aug. 15, '42
Stoner, William P.—Tenn. April 10, '42
Strauchen, G. W.—Tenn. April 14, '42
Swann, Clair L.—Kansas Dec. 23, '42
Teagarden, Elmer J.—N. B. E. Aug. 31, '42
Webb, Virginia E.—La. Sept. 28, '42
Weidner, Garland L.—Ky. July 20, '42
Wiggins, Joseph C.—Tenn. July 14, '42
Williams, Guy H.—Okla. Oct. 22, '42
Williams, Thomas E.—Ark. July 30, '42
Willis, Charles A.—La. Nov. 10, '42
Wilson, William K.—Mo. April 28, '42

Part II of the Board's report was adopted.

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE COMMITTEE OF PUBLIC HEALTH

B. F. Austin, M. D.
State Health Officer

Administration

FOREWORD

The year for which this report is being made was marked by many perplexing problems in the field of public health. It was also marked by substantial accomplishments which are revealed in subsequent paragraphs of the report and will undoubtedly be reflected in improved health conditions among the people of Alabama for many years. This is another evidence of the sound foresight of the founders of Alabama's health work, the cooperation of the medical profession and support of the laity.

The difficulties and problems were largely due to the war, which presented its grim aspect and brought changes in the American way of life even before the United States became an actual participant, for the National Defense Program was actually a part of the war effort. The outbreak of war in this hemisphere only brought an intensification of the rearmament effort which had been under way for a year and a-half before Pearl Harbor.

The response of 240 of Alabama's practicing physicians to the call to active duty with the armed forces has presented a problem of magnitude; inability to secure experienced public health personnel has confronted us on every side; priorities for construction material and equipment for sanitation and milk and food handling establishments have been increasingly difficult to secure; and the need for saving gasoline and tires has been a serious handicap.

Although no bureau or division of the State Department of Health has remained unaffected by the change over from peace time activities to preparation for war and then from rearmament to active warfare its most immediate impact was felt by the Bureau of Vital Statistics. Military service and increasing needs for workers in the nation's rapidly expanding war industries brought an unprecedented demand for copies of birth certificates to serve as proof of citizenship. From a total of 25,331 in 1939, these increased to 34,860 in 1940; 78,959 in 1941 and 118,726 in 1942. Since many of the births had not been registered, the work of actually issuing the copies of birth certificates represented only a relatively small fraction of that involved in filling the requests. Fortunately, the Governor realized that an emergency condition had been created by war needs and made it possible to supplement the staff with seventeen additional clerks.

There has been a gratifying decline in both the incidence and mortality of some of the most common communicable diseases notwithstanding temporary reversals of the downward swing in a few of these diseases. Fortunately, the upsetting of family life, crowding, housing shortage and other evil fruits of war have not seriously interfered with this aspect of the health of the people of Alabama. The following tabulation shows a comparison of death rates for certain important diseases in 1915, 1938 and 1942. The rates are per 100,000 of the population except where otherwise indicated.

Disease	1915	1938	1942*	Percentage Decrease 1915-1942	Percentage Decrease 1938-1942
Typhoid fever	29.9	2.1	0.3	99.0	85.7
Tuberculosis	112.0	57.8	46.2	58.8	20.1
Infant mortality**	64.9	60.6	50.1	22.8	17.3
Stillbirth†	51.4	40.2	32.3	37.2	19.6
Maternal mortality‡.	74.9	63.0	39.0	47.9	38.1
Diarrhea and enteritis (under 2 years)	39.2	18.8	9.6	75.5	48.9
Pellagra	49.3	12.4	5.9	88.0	52.4
Malaria	22.2	8.1	3.3	85.1	59.2
Diphtheria	9.1	3.6	1.5	83.5	58.3

*1942 rate provisional
**Per 1,000 live births
†Per 1,000 total births
‡Per 10,000 total births

ACKNOWLEDGMENTS

Recognition is gratefully given here for the many contributions that have been made from numerous sources to the accomplishments in health in Alabama during last year. First, and perhaps most important of all, has been the work of the physicians of the State. They have put forth extra efforts to render adequate medical care in spite of the shortage of physicians in several areas. We sincerely appreciate their cooperation in handling clinics sponsored through the health department which include: maternal and child health services, venereal disease treatments, diagnosis and treatment of tuberculosis, as well as their active support of health department services.

Not only has Alabama received funds through the United States Public Health Service but personnel has been loaned to conduct malaria and typhus fever control activities, do public health nursing, survey sanitary conditions in certain war areas, do sanitation work and inspection of food handling, conduct industrial hygiene activities and render venereal disease control services. Funds have been granted from Title V of the Federal Social Security Act through the Children's Bureau of the Department of Labor. These have been used to pay salaries of public health officers, and nurses and to maintain maternal, child health and dental clinics. Appropriations made by state and county governing bodies and cooperation given by state and local officials have been of material aid in promoting the health program.

The Rabies Study was continued by the International Health Division of the Rockefeller Foundation. Negro health services have been given definite aid through the Julius Rosenwald Fund. The State Dental, Nursing and Tuberculosis Associations have contributed much to the health programs through their cooperation. Many lay organizations, such as women's federated clubs, civic clubs, parent-teacher associations and chambers of commerce have given substantial aid through their activities.

The splendid cooperation given health workers by personnel of other state and county agencies, such as the Departments of Public Welfare, Education and Agriculture, Extension Services, institutions of higher learning, has been deeply appreciated and has helped in promoting health work throughout the State.

Services rendered by the Farm Security Administration, Work Projects Administration and Tennessee Valley Authority have been of inestimable value in the promotion of the health program in Alabama during last year.

Each member of the staffs of the State and County Health Departments has been called upon during the year to render additional services because of the war effort. The extra efforts of these loyal staff members, supplemented by the aid and support of state and federal agencies, medical profession, volunteer helpers, appropriating bodies, officials and the general public have made possible the excellent results accomplished in health work in Alabama during the past year.

The State Committee of Public Health is profoundly grateful to all persons and agencies cooperating in this far-reaching health program.

FARM SECURITY ADMINISTRATION

From its inception in 1935 the FSA has been a diversified crop, livestock, and a "live-at-home" program. However, in early 1941 the Farm Security Administration, realizing the importance of producing more feed and food crops, more livestock, and livestock products, more poultry and poultry products, shifted their planning and supervision to a Food for Defense Program. We realized that more milk, butter, poultry, eggs, beef, pork, fresh vegetables, soybeans, and peanuts must be produced if our friends fighting for our cause were to eat. During 1941, FSA families made an outstanding record in increasing all these items in Alabama throughout the region.

After Pearl Harbor it was only natural that FSA clients went to town on the Food for Freedom Program as they had been hearing the story

from their supervisors for twelve months and most clients had shifted to a food and feed production program.

In addition to the progress made in Food for Freedom Program, FSA families in Alabama canned a total of 6,486,275 quarts of fruits, vegetables and meat during 1942 which is an average of 289 quarts per family for home use. Many of the physicians serving these families have commented on the reaction of these families to more adequate and better balanced diet made possible through planning adequate home canning for home use.

The Environmental Sanitation Program has provided 13,931 sanitary units; screened 2,983 houses; protected 2,221 water supplies since beginning of this program. There has been a steady increase in the amount of funds that the landlords have been willing to invest in sanitation facilities as they observe the sanitation improvements on farms where the program has been completed. The sanitation program is carried on with the cooperation and technical supervision of public health sanitary engineers.

FSA families are encouraged to take advantage of the services offered through the county public health departments. This preventive medicine helps to keep down diseases and sickness among clients and general population. Also, it conserves funds in organized medical care program making possible a higher percentage payment for the general practitioners.

Dental Care Programs of limited services are in operation in thirty counties in the State. These dental programs take care of simple fillings, extractions, cleaning and gum treatments. They are operated in cooperation with dentists just as the medical program operates with the physicians. The dental program plays an important part in the health program. We are ever mindful of the tremendous load that the general practitioners left at home have to shoulder. Also, of the shortage of doctors in most of our rural counties. We are doing what we can to help protect our clients' health, and appreciate what you are doing for them. We realize that the farmers are facing the most difficult and important job in agricultural history. Food is a powerful weapon, essential to victory. Our farmers and their families will have to work longer and harder hours in 1943 to keep up the progress made in 1942. This work will fall largely upon older men and women and children. This fact increases the importance of the Group Medical Programs. The clients in counties without programs are interested in organizing programs. The Food for Freedom Program is well under way for 1943. Fifty-five per cent of our operating capital loans for 1943 will be used for Food for Freedom items.

While the FSA clients were doing an outstanding job in Alabama on Food for Freedom Programs, the FSA clients were busy throughout the Nation as indicated in the production table from U. S. Department of Agriculture, Washington, D. C., which gives the increases in production of essential crop and livestock products between 1941 and 1942 by FSA borrowers.

THE TENNESSEE VALLEY AUTHORITY

Local health protection was strengthened by the Tennessee Valley Authority in the counties of the Tennessee River Valley through contractual agreements whereby salaries and travel of personnel were paid. Memoranda of understanding outlining the framework within which the cooperative health programs function were formulated between the State Health Department and the Tennessee Valley Authority. These are of considerable significance in developing at the bases of operation an awareness of program objectives and mutual responsibilities.

Provision was made in the operating budget for four county health nurses, one health education coordinator and an assistant in health education. Unfortunately, the health education coordinator was not able to perform any services because of illness and death. The position of assistant in health education was not filled because of the inability to secure the services of an adequately trained person.

The following instructional materials were prepared and distributed:

A Guide to a Community Educational Program for Malaria Prevention and Control—405.

Malaria and its Control in the Tennessee Valley—409.

Malaria, the Story of an Individual Problem and a Community Problem—3,259.

Learning about Malaria in our Community—100.

In addition to these cooperative budgets the Health and Safety Department of the Tennessee Valley Authority rendered valuable health services through dealing with health and sanitation problems arising from activities of the Authority and affecting the welfare of the region. These services function through a central staff of four principal units as follows:

1. Medical services, which is responsible for standards, policies, methods and procedures in such fields as the maintenance of employee health; prevention and control of communicable diseases among employees; the definition of occupational health hazards; provision of facilities for the treatment of sickness and injuries associated with employment, and for general medical care of non-occupational illness at points inaccessible to normal facilities; and the appraisal of medical and public health programs.

2. Public health engineering services, which has the responsibility for planning and technical supervision of work in respect to engineering methods and practices: in malaria control programs; in safeguarding water, milk and food supplies; in sewage and waste disposal, including stream sanitation; in the sanitation of recreational areas and facilities; and in the hygiene of housing and working environment.

3. Safety services, which has the responsibility for the planning and technical supervision of measures for the prevention and control of hazards resulting from accidents, fires and similar contingencies on all properties and operations of the Authority; and in the development and supervision of industrial hygiene services.

4. Laboratory services which serve the several staff units as well as the field organizations and

which is responsible for applied research and investigation in support of the technical programs.

The objectives of the health education and information services are carried out by other technical and administrative personnel, both within the Authority and in the region, rather than by direct contact between health education personnel and Tennessee Valley employees of the general public.

WORK PROJECTS ADMINISTRATION

Workers assigned by this agency to render services with the State and County Health Departments gave valuable assistance during the year in clinics, health education and the Bureau of Vital Statistics.

There were 174 workers and four supervisors serving at health clinics in forty-four counties; twenty-seven workers and one supervisor serving in health education activities and 172 workers with six supervisors serving in hospitals as assistants or in training. Forty-four workers served at the Bureau of Vital Statistics of the State Health Department.

The Division of Visual Education of the Work Projects Administration with headquarters in Birmingham rendered valuable services by preparing for the health department many charts, diaramas, drawings and maps for the cost of materials.

In October 1942 the Work Projects Administration was assigned the task of approving all applications for funds made available through the Lanham Act for the maintenance and operation of public health facilities as well as others. The health department made several applications for assistance through the Work Projects Administration and all were approved at the state office.

Personnel of the State and County Health Departments regret that because of war needs and available employment in war production and other industries the quota of Work Projects Administration workers was reduced approximately by thirty-three and one-third per cent on June 30, 1942. It was liquidated entirely so far as assistance to the State Health Department is concerned on February 2, 1943 and it is anticipated that there will be no Work Projects Administration workers serving with any county health department after April 30, 1943. Some of these workers have been absorbed into the regular staff of the departments.

DIVISION OF PUBLIC HEALTH EDUCATION

This country's entrance into the war has imposed added duties and responsibilities upon this division, as it has upon the State Health Department generally and upon practically every other agency and activity in the country. In spite of those new obligations, however, the Division has made an effort to carry on without diminution the tasks it was performing in peacetime.

During the calendar year 1942 it issued 613 daily releases dealing with practically every aspect of individual and community health to the two Montgomery dailies, the Associated Press, the United Press and the International News Service. This total exceeded by a considerable margin the 1941 total of 537, the largest number issued in a single year up to that time. In spite of the greatly increased demands upon newspaper space by the various war agencies and the great increase in newspaper interest in war news, these were widely used. No means is available for determining exactly how many were published during the year in the newspapers outside Montgomery, as they are not received in this office for checking. However, it was possible to make a pretty accurate check of *The Montgomery Advertiser* and *The Alabama Journal*. These two papers, both frequently using the same release, published during the year exactly 700 items (exclusive of State Health Chats) based on material prepared in this office. This total was considerably higher than that for any previous year.

In addition to the above-mentioned releases issued exclusively to the daily newspapers of the State, the Division issued 53 releases prepared primarily for the weekly newspapers but made available also to the dailies outside Montgomery. Here again it was impossible to make anything like a complete check-up, but there is good reason to believe that the information they contained received wide publication.

As in past years, the weekly State Health Chats were made available through the Associated Press to afternoon Associated Press newspapers in all parts of the State. Indications are that a large percentage of the readers of the papers carrying these articles read them regularly.

Through arrangement with Mr. L. O. Brackeen, Extension Editor of the Alabama Polytechnic Institute, this Division began early in 1942 the preparation of a monthly article for *This Month in Rural Alabama*, which publication is distributed as a supplement to weekly newspapers.

The first of a series of health booklets, prepared especially for Alabama readers, was published during the year. This one dealt with malaria. It was made available to all county health departments and is also being distributed by the State Department of Health. It is planned to follow this with several other booklets of a similar nature in the near future, as it is believed that there is a real need for this type of publication.

Through the kindness of the management of Radio Station WSFA, our weekly radio program, "Health is Wealth", was heard regularly over that station, as in previous years. In accordance with a practice begun soon after the establishment of the Division, each radio talk is mimeographed. Copies are sent regularly to all county health departments, heads of bureaus and divisions, many State Departments of Health and various organizations and individuals. Copies are also kept on file to fill requests for material on the subjects covered. Among those receiving these talks are a number of editors of sanatorium magazines, who occasionally print them in full. They are also printed from time to time in daily and weekly newspapers and other publications.

It is estimated that the potential daytime audience of Station WSFA is in the neighborhood of half a million persons. It is impossible to do more than conjecture how large a percentage of this potential audience (persons having access to

radio sets) comprise the audience actually listening to our programs.

Numerous other activities were performed by the Division during the year. These included the editing of the annual report of the State Department of Health, the handling of a growing correspondence dealing with various aspects of public health education, the furnishing of information not available in printed or mimeographed form, cooperation with various other agencies, the preparation of special reports, reading of medical journals and other publications, and the writing of book reviews and articles for *The Journal of the Medical Association of the State of Alabama.*

In the fall of 1942 the associate in charge was named educational director of the Women's Field Army of the American Society for the Control of Cancer and has worked with Mrs. Ray Meade, Alabama Division Commander of that organization, in promoting its objectives. He also assisted other groups, including the Montgomery Life Underwriters Association, in their campaigns in behalf of better health.

A health educator was added to the staff of the State Health Department in July 1942, and he has been able to carry on a form of health education that was not carried on before. It consists mainly of intensive health education programs in particular localities, using motion pictures, exhibits and talks to workers, school pupils, and other groups. This work has been almost entirely in the venereal disease field and is covered in more detail in the report of the Division of Venereal Disease Control of the Bureau of Preventable Diseases. Practically the entire period from the time of the inauguration of this phase of the public health education program until the end of the year was spent in Gadsden and Etowah County.

Because of congestion in the headquarters building of the State Department of Health at 519 Dexter Avenue, the Division of Public Health Education was moved early in October to 416½ Monroe Street and is now situated in the same block occupied by the Bureau of Sanitation, the Bureau of Maternal and Child Health, the Bureau of Preventable Diseases and the Division of Tuberculosis Control.

Coincident with that move was the transfer of the Film Library from Athens to Montgomery and assumption of its operation by the Division of Public Health Education. A short time after that change occurred the Tuscaloosa County Health Department became a member, increasing the membership to 40. It is hoped that, as soon as additional projection machines can be purchased, the other county health departments will also become members. This desirable objective is not likely to be attainable, however, until after the war, as even used machines in serviceable condition are almost unobtainable because of priorities. The Film Library now includes 72 sound and 26 silent films. In addition, there are a number of films, both sound and silent, which have been purchased by various bureaus and divisions and are now in the custody of the Film Library, and also several that have been loaned for an indefinite period by various national organizations. Unlike those that are the property of the Film Library these are available to nonmembers as well as members.

DIVISION OF MACHINE TABULATION

The Division of Machine Tabulation is primarily a service division, since the nature of its work is to process and analyze material for the other bureaus and divisions of the health department.

For the Bureau of Vital Statistics: Information contained on birth, death, marriage, stillbirth, and divorce certificates was transcribed to punch cards. From these, indexes were prepared monthly in order that the location of any given certificates might be made possible. From these same cards the Division prepared the monthly provisional statistical bulletin and much of the data for the annual vital statistics report. Notifications of birth registration were prepared for approximately 72,000 births during the year. A record of fees due each local registrar was kept and warrants prepared for each of them, showing the number of births, deaths and negative reports sent in and the amount of money due each registrar.

For the purpose of assisting the Registration Division in locating requests for certified copies of birth, death and marriage certificates, mail containing money was transcribed to punch cards and alphabetized, first on a daily basis and later on a semi-monthly basis.

The activities of the Registration Division were recorded each day and analyzed semi-monthly. Altogether there were approximately 350,000 records transcribed to punch cards for this Bureau during the year.

For the Bureau of Preventable Diseases: Weekly reports of communicable diseases were transcribed to punch cards. Tables for its annual report were prepared from these cards.

A monthly morbidity report is prepared for all venereal diseases. In addition to this, a record is kept of all patients in the venereal disease clinics in the state, together with a record of the treatments received by these patients. Various monthly, semi-annual, and annual reports were prepared from these records. Considering each clinic treatment as one record, approximately 1,000,000 records were transcribed to punch cards and analyzed for this Bureau during the year.

For the Bureau of Maternal and Child Health: Cards received from this Bureau reporting findings of its dental survey were transcribed to punch cards and analyzed as soon after receipt as possible. Approximately 50,000 of these records were transcribed and analyzed during the year.

For the Bureau of County Health Work: The monthly report of each county was transcribed to punch cards. From these the quarterly and annual reports of county activities for the state were prepared. There were approximately 85,000 items recorded from these reports during the year.

In the past years the Division of Machine Tabulation has been a part of the Bureau of Vital Statistics. However, on March 11, 1942, by order of the then Acting State Health Officer, Dr. B. F. Austin, the Division was placed under the Bureau of Administration. The advantage of this is

readily seen, as it places this Division in a position to deal with each bureau that is served directly. During the year approximately 1,485,000 records were transcribed to punch cards and processed. There were five people who left the Division during the year.

Bureau of County Health Work

More has happened in the field of county health work since the last report was rendered than can be recorded in a resume' of occurrences of this scope. Discussion will be limited, therefore, to two items: namely, loss of personnel to the service; and combinations of counties under common health officers, the consequence thereof.

As of December 31, 1942, ten county health officers have answered the call to day as follows:

Hugh G. Clark, Barbour County	Army
Otis F. Gay, Butler County	Army
John M. Kimmey, Calhoun County	Navy
A. J. Perry, Chambers County	Army
Isee L. Connell, Clarke County	Navy
Carl. A. F. Holler, DeKalb County	Army
Iva G. Murphy, Escambia County	U.S.P.H.S.
Homer D. Barber, Fayette County	Army
David B. Snelling, Greene County	Army
William A. Blake, Washington County	Army

Nurses in service are listed in the report of the Division of Public Health Nursing; and sanitation officers in the report of the Bureau of Sanitation.

In addition to losses of health officers to the armed forces, there has been a depletion of the normal strength of the Bureau of County Health Work for other reasons. Thus, four pieces of personnel resigned to accept positions in public health work in other states; seven are now in private practice; two have passed from the picture by expiration of term; one accepted a position with the Veterans' Administration; and one passed from an active health officership to an assistant's position.

Such tremendous loss of man power did not find Alabama altogether unprepared to meet the emergency since each of its counties has been provided with full-time health service and it seemed possible to combine certain of them into bicounty projects, each served by one medical officer. The first of these (Chambers-Lee) began to function on June 19, 1942 under Dr. Arthur H. Graham, the health officer of Lee, Chambers having been left vacant on the loss of its officer to the Army. More combinations followed rapidly until 26 other counties had been combined into 13 bicounty setups as listed below, with officer in charge and effective date of creation of each:

Autauga-Chilton, Dr. G. E. Newton	Jan. 16, '43
Baldwin-Escambia, Dr. W. B. Nelson	Jan. 1, '42
Bibb-Perry, Dr. J. R. Long	Aug. 1, '42
Butler-Lowndes, Dr. E. F. Leatherwood	July 15, '42
Calhoun-Etowah, Dr. J. E. Dunn	Dec. 7, '42
Clarke-Washington, Dr. Caroline Callison	Dec. 1, '42
Clay-Randolph, Dr. M. L. Shaddix	July 1, '42
Coffee-Geneva, Dr. G. L. Weidner	July 1, '42
Coosa-Elmore, Dr. C. S. Cotlin	Dec. 1, '42
DeKalb-Jackson, Dr. E. N. Haller	July 1, '42
Fayette-Pickens, Dr. J. H. Ashcraft	Aug. 1, '42
Greene-Sumter, Dr. E. M. Moore	Dec. 1, '42
Lawrence-Morgan, Dr. L. R. Murphree	Nov. 16, '42

At this writing two vacancies exist, one in the health officership of Lauderdale, and the other in Monroe County. A combination of the former with Colbert and the latter with Conecuh seemed logical but the groupings have not been effected to date.

Uniformly favorable reports are being received regarding the effectiveness of the bicounty projects, although there is no disagreement that in most instances each of the counties should have its own health officer. How soon this can be possible and whether there will be no such combinations after the emergency has passed are questions that remain in the realm of speculation. While the larger and more populous counties should have individual medical officers in charge, it is entirely possible that smaller and sparsely settled counties will continue to be served through a bicounty project plan.

It must be understood that it is only the health officer's time that is shared in the combination each county continuing to have its own department and its own budget. There is, then, no district as contemplated by subsection 6 of Section 8 of Title 22 of the 1940 Code of Alabama, this statute intending to cover those areas which, for economic reasons, would have to share a common personnel and a joint budget. Up to this time in Alabama such approach to full-time health service for all the people has not been found necessary, each county preferring to be a unit, and sharing a health officer with its neighbor only because of the demands of the armed forces.

Public Health Nursing

Number of nurses engaged in work under central administration and in county health departments on January 1, 1943 was two hundred and thirty-eight. Since May 1, 1941, call to military service has been answered by twenty-seven as follows:

Frances Bennett	Barbour County
Opal Bishop	Randolph County
Arline Burkhead	Cullman County
Hester Calvert	State Staff
Frances Calvin	Henry County
Ruth Champion	State Staff
Nancy E. Davenport	Jefferson County
Nellie Davidson	Barbour County
Grace Decker	State Staff
Pauline Echols	Jefferson County
Flora D. Findlay	Jefferson County
Kathryn Francis	Calhoun County
Gladys Giles	Macon County
Bobry Harris	Jefferson County
Ruth Horn	Lamar County
Elvie Kelley	Talladega County
Lucille Kondrat	Colbert County
Lillian Kumli	Jefferson County
Annie Ruth Luker	Cullman County
Jean J. McCraney	State Staff
Ruth McEntee	Cullman County
Marguerite Northington	Russell County
Emma Belle Patterson	Cleburne County
Lillian Stiggins	Escambia County

Nettie A. Ulmer Limestone County
Bernice Ward Bullock County
Ossie B. Wills Russell County

Despite these and other losses, the nursing program has been continued with effectiveness. Close cooperation has been maintained with the American Red Cross in promoting its sponsored nursing activities, and public health nurses have taken an active part in civilian defense activities.

As would be expected, the Division of Nursing, in its recruitment program, has been forced to accept less well qualified personnel on an emergency basis to replace those lost. Such appointments have been made for the duration of the war emergency, and six months thereafter.

The Tuskegee School for Training Nurses in midwifery enjoyed a successful year, graduating three classes with a total of twelve. Three of these graduate midwives are in Florida, one in Louisiana, two in Arkansas, one in Georgia, and five in Alabama.

Experimentally, a county nurse-midwife service was inaugurated in Marengo on July 1, 1942. The nurse-midwife's duties include delivery of selected indigent patients, supervision of the granny midwife, assistance in maternity clinics, and generalized public health nursing in a limited area as time permits. It is needless to record that well defined policies were approved by the Marengo County Board of Censors prior to the beginning of the service.

The Cullman County Home Delivery Nursing Service was continued during 1942. Mothers in the case of 35.2 per cent of the total births (1,174) received prenatal supervision, and there was postnatal care on the part of the nurses concerned in 38.5 per cent of all the births.

Services of the State Midwife Consultant were discontinued October 15, 1942, the State Advisory Nurses assuming responsibility for the program. It is felt that it is good and economical administration for the advisory nurses to discharge as many as possible of the responsibilities on the consultant level, regardless of the field involved, though this is not possible of attainment at the present.

In general, county nurses have been called on for a greater output because of the combination of several counties into bicounty projects under one health officer. This further contribution they have made gladly to the program, and for their unselfish service they are heartily commended.

Bureau of Preventable Diseases

EPIDEMIOLOGY

With the unsettled conditions prevailing during 1942 it was feared that there might be an increased incidence of many of the communicable diseases. Crowded living conditions and temporary construction quarters are ideal for the propagation of infection but in spite of all these the year set many record lows in reported cases. The depletion in the ranks of the medical profession probably resulted in more home treatment of minor diseases but even taking this into consideration the year 1942 was an extremely good one for Alabama.

In contrast to the three major epidemics of 1941, namely, influenza, measles and poliomyelitis, no disease reached epidemic proportions in 1942. Typhoid fever set a new all-time low with only 147 cases reported. Not many years ago we expected at least this many deaths each year and this record is the more noteworthy because of the difficulty of supervising water supplies and sanitation in many temporary camps. Diphtheria recovered some of the ground lost in 1941 and approached the low point of all time set in 1940. A study of the diphtheria cases occurring during the six years, 1937-42, revealed that approximately 80% of them had never received any form of immunization. Of the deaths in this same period over 90% had never received toxoid. Toxoid apparently did not protect all those inoculated but even if it failed to prevent diphtheria it cut the death rate to one-third that in the uninoculated group.

The year was also a favorable one as regards malaria incidence. A blood survey was undertaken during the fall months in the areas adjoining military camps to determine the potential hazards to the residents in these camps. The figures were almost unbelievably low in all instances and did not indicate that there was any particular problem.

The incidence of poliomyelitis was within normal limits and no suggestion of an epidemic occurred. A few patients were sent to Warm Springs, Georgia, where the Kenny method of treatment was being tried. The value of this type of treatment is being definitely established.

DIVISION OF VENEREAL DISEASE CONTROL

During the year 1942 there were reported 19,272 new cases of syphilis, 7,328 new cases of gonorrhea and 328 new cases of chancroid. In comparison with 1941 this represents a decrease in the reporting of syphilis and an increase in the reporting of gonorrhea. This decrease of syphilis was limited to the colored race since there was a slight increase for the white race. Of the reported cases of syphilis 41.03 per cent were early syphilis (less than four years in duration). This is practically the same percentage as for 1941. Although there was an increase in the reporting of gonorrhea, this disease is still very poorly reported.

The distribution of free drugs to physicians, clinics and hospitals throughout the state for the treatment of syphilis was maintained during the year. Free drugs for the treatment of gonorrhea and the other venereal diseases was continued but the distribution was limited to clinics. There were 933,201 doses of anti-syphilitic drugs distributed and in addition 1,175,050 sulfathiazole tablets and 67,100 sulfanilamide tablets were distributed for the treatment of gonorrhea and the other venereal diseases. The supplying of basic equipment to clinics was maintained.

On January the first there were 148 clinics in operation in the 67 counties. By December the thirty-first there were 189 clinics in operation. In only thirteen counties was there just one clinic in operation. An average of 21,000 patients were treated each month in all the clinics.

The one week's refresher course in venereal diseases for physicians was continued. In addition a one month's refresher course in venereal disease control for public health nurses was begun. Twenty-six nurses were trained during the year.

Three physicians were loaned to the State Health Department by the U. S. Public Health Service. One was assigned to Jefferson County, one to Etowah County and one became venereal disease consultant for the Division.

The program of loaning specialized venereal disease nurses to the counties was discontinued. The nurse supervisor became the veneral disease nurse consultant for the State.

A venereal disease educator was added to the staff. A concentrated venereal disease educational program was begun in Etowah County. This was followed by blood testing of individuals on a voluntary basis in all but one industrial plant.

DIVISION OF TUBERCULOSIS

The meteoric decline in the deaths from tuberculosis in 1942, as revealed by the provisional figures of 1,326 deaths at this writing in comparison to 1,473 deaths in the preceding year, is gratifying. These preliminary figures indicate that the death rate will approximate 46.2 per 100,000 population as compared to 51.6 in 1941. This decline surpasses explanatory theories. If this figure is not altered by subsequent corrections by the Department of Vital Statistics, it will give the pessimistic prognosticators, who say that increases in tuberculosis cases and tuberculosis deaths accompany any war, a jolt that will loosen them from their time-worn, over-stated phraseology that, "History repeats itself."

This division nourishes the thought that if this decline in the death rate from tuberculosis proves actual, by final statistical reports, it will be reflected by a similar reduction throughout the country as has been the case in previous years. Explanations are in order, and these we offer with guarded reserve.

The reduction in tuberculosis deaths has an important and direct administrative and economic bearing on the investment in tuberculosis sanatoria, better referred to as the "Colleges of Tuberculosis Teaching and Treatment." This institution of health in Alabama consists of the eight county sanatoria partially subsidized by the State. Considering the fact that only 480 beds are available for treating tuberculosis, the annual turnover of about two patients per year per bed is too small but it has developed a rather heartening number of alumni. These serve as tuberculosis missionaries in ways and places beyond the reach of the health departments' personnel. The failure to increase the beds available for this disease in these times is readily understandable, but the failure to properly subsidize those now available is not understandable.

The induction of men into the army and the elimination of those having chest pathology by x-ray instead of the stethoscope has no counterpart in history. This factor alone is locating cases heretofore not known to exist, which in turn renders a fertile field of contacts from which other active cases may be located by our traveling x-ray units and weekly sanatoria x-ray clinics.

In the year 1942 our three traveling x-ray units held 516 one-day clinic sessions at which 10,916 x-ray examinations were made. Added to these the Susie Parker Stringfellow Hospital at Anniston held weekly clinics at which 766 x-ray examinations were made. Colbert County, with its own x-ray installed in the local health office and through the cooperation of the local physicians, made 776 x-ray records. The State furnishes all the films for these case-finding and control procedures. Many other x-ray examinations are made by the George Eaves Clinic in Birmingham for which figures are not available in our records as this set-up is financed entirely by the Jefferson County Tuberculosis Association, its support coming from the local Seal Sale Campaign each year.

This enormous case-finding program as well as interval follow-up check of known cases, reaches its appreciated tentacles into the most remote parts of the State. Its circle of friends becomes ever larger.

The presence in homes and in industry of hundreds of undiagnosed cases as well as some diagnosed cases who unwittingly or wilfully may be spreading the disease to well persons presents a potentially serious and costly situation. This may be partially answered by the offer of the U. S. Public Health Service, which has been accepted, to furnish a mobile unit for surveying industries by mass x-raying with thirty-five millimeter films. This will be a potent case-finding operation especially in view of the recent industrial growth that has plummeted onto this State. The U. S. Public Health Service is also continuing a very specialized survey and study in a number of our southern counties.

Along this same progressive advance, the State Tuberculosis Association will soon have a mobile truck for mass surveys. The equipment will consist of a machine for recording 4x5 inch chest films, which will involve a cost of only four to five cents for each exposure. The operation will probably be limited to non-industrial communities and schools and colleges.

With all this diagnostic equipment operating in the State, any increase in the number of new cases will be apt to be due to this factor rather than the war. The challenge is now for more adequate hospitalization facilities and follow-up treatment centers. The latter factor will make it possible to secure a more rapid turnover of cases in our limited sanatoria facilities. This treatment center feature for pneumothorax refills subsidized by the State has been tried out in two localities, Eufaula and Selma, respectively, and it has proven itself beyond a doubt. Four hundred and seventy-five refills were given in these two clinics in 1942. This particular improvement can be accomplished by making available additional funds, but no new outlay for equipment is necessary as that becomes the responsibility of the community receiving a subsidized pneumothorax clinic.

DIVISION OF INDUSTRIAL HYGIENE

The past year has seen the start of the first definite work that has been done by the Division of Industrial Hygiene.

The start has been quite modest since the laboratory is not complete as yet, although the Division was moved to the Birmingham District over a year ago.

With incomplete laboratory facilities the activities of the whole Division have been definitely curtailed. The general function of the Division is to act as a consultant group in medicine, engineering, nursing, field and laboratory work and education, as these professions pertain to the industrial hygiene and industrial health activities throughout the State.

To date, the work of the Division has been limited, through lack of adequate trained personnel and lack of complete equipment to carry on more than a very restricted program of environmental studies of a few of the defense industries.

Engineering studies have been carried on in the following Alabama industries:

9 Ore Mines
1 Stone Quarry
1 Limestone Mine
4 Coal Mines
1 Steel Plant
1 Shipyard

The surveys carried on involved the surveillance of establishments employing some 25,000 employees.

Laboratory analyses for these surveys were made in our own laboratory and included:

252 dust counts
27 carbon monoxide readings
455 illumination readings
24 analyses for free silica*

These analyses do not include temperature, humidity and ventilation determinations in all underground operations in all mines.

With the shift of industries to a more concerted war effort, there has been a decided shift in the employment rolls of certain defense industries. The following table shows the 1941 and 1942 shift in employment:

Industry	July 1941	July 1942
Textiles	50,000 plus	58,803
Iron and steel	30-35,000	44,628
Basic lumber	22-24,000	37,520
Coal mining	22-23,000	26,561
Shipbuilding	6,000	24,014
Chemical and allied	5,000	20,921

BUREAU OF LABORATORIES

DIAGNOSTIC DIVISION

For the fourth calendar year in succession the Bureau of Laboratories examined a larger number of specimens than ever before. Table I presents the comparative figures for the different types of specimens examined during 1941 and 1942. From this tabulation it will be seen that a significant increase in the number of specimens submitted for examination occurred only in the case of syphilis, gonorrhea and tuberculosis while major losses were sustained in the number of diphtheria, Vincent's infection, pneumococcus typing, enteric group organisms, agglutination tests, malaria, intestinal parasites, and water and milk examinations.

Table I

A Comparison of the Number of Specimens of the Different Types Examined During 1941 and 1942

Kind of Examination	1941	1942	Gain or Loss
Diphtheria	9,295	8,200	— 1,095
Vincent's infection	3,640	2,932	— 508
Pneumococcus typing	373	114	— 259
Enteric organisms	13,169	10,135	— 3,034
Agglutination tests	9,745	8,903	— 842
Malaria	21,527	16,943	— 4,584
Intestinal parasites	50,680	26,140	— 24,540
Tests for syphilis	391,666	569,898	+ 178,232
Gonorrhea	26,307	27,729	+ 1,422
Tuberculosis	20,525	21,829	+ 1,304
Rabies	592	678	+ 86
Water	11,855	11,046	— 809
Milk & dairy products	25,237	24,027	— 1,210
Meningococcus	59	44	— 15
Food poisoning	30	44	+ 14
Research	863	32	— 831
Miscellaneous	9,628	6,587	— 3,041
Totals	660,700	735,281	+ 74,581

Examination of Table I reveals the fact that while 74,581 more specimens were examined in 1942 than in 1941 this was entirely due to the overwhelming increase in serologic tests for syphilis. Of this one type of specimen there was an increase of 178,232 over 1941, the total for the year being 569,898 as against 391,666.

In Table II the relationship of diagnostic tests —darkfields, serologic tests and smear examination—for evidence of venereal disease to the total number of examinations of all kinds is shown. From these figures it will be seen that venereal disease examinations constituted 81.2 per cent of all examinations made, while in the Branch Laboratory doing proportionately the least amount of this work it was nevertheless 74.0 per cent of the total and in that Branch doing the most it was 85.9 per cent of the whole.

In connection with the serologic tests for evidence of syphilis it is of particular interest to note that 216,158 were made on selectees for military service, whereas, only 353,209 were routine diagnostic specimens.

Table II (see next page)

A comparison of darkfield examinations by laboratories for the years 1941 and 1942 is shown in Table III. From these statistics it is evident that 28 more specimens were examined in 1942 than in 1941. These figures, however, if interpreted as indicating a more general use of this facility are misleading, as they show no increase over the number of specimens submitted in 1940.

*Chemical and petrographic analyses made by the Chemical Laboratories of the National Institute of Health—Division of Industrial Hygiene.

TABLE II

THE RELATIONSHIP OF DIAGNOSTIC TESTS FOR VENEREAL DISEASE TO THE REST OF THE EXAMINATIONS MADE IN THE BUREAU OF LABORATORIES

1942

LABORATORY	VENEREAL DISEASE TESTS							ROUTINE DIAGNOSTIC TESTS				
	Total Examinations	Darkfield	Diagnostic Kahns	Gonorrhea	Selective Service	Total	% of Total Examinations	Intestinal Parasites	Milk and Water	Miscellaneous	Total	% of Total Examinations
Montgomery	174,265	203	81,059	5,347	55,395	142,004	81.4	8,791	4,806	18,664	32,261	18.6
Birmingham	227,141	150	113,142	8,714	68,931	190,937	84.0	4,874	13,707	17,623	36,204	16.0
Mobile	90,516	27	44,384	4,272	22,506	71,189	78.6	4,360	3,205	11,762	19,327	21.4
Decatur	61,599	19	27,239	1,809	20,696	49,763	80.7	644	2,983	8,209	11,836	19.3
Tuscaloosa	36,083	17	16,035	836	12,658	29,546	81.8	1,746	1,426	3,365	6,537	18.2
Anniston	37,053	28	18,153	948	12,723	31,852	85.9	256	2,634	2,311	5,201	14.1
Selma	52,293	64	30,955	1,152	10,139	42,310	80.9	1,543	4,452	3,988	9,983	19.1
Dothan	29,416		11,707	1,709	6,687	20,103	68.3	3,543	997	4,773	9,313	31.7
Huntsville	26,915	23	10,535	2,942	6,423	19,923	74.0	383	863	5,746	6,992	26.0
TOTALS	735,281	531	353,209	27,729	216,158	597,627	81.2	26,140	35,073	76,441	137,654	18.8

Table III

A Comparison of Darkfield Examinations by Laboratories 1941 and 1942

Laboratory	1941	1942	Gain or Loss
Montgomery	184	203	+ 19
Birmingham	113	150	+ 37
Mobile	91	27	— 64
Decatur	24	19	— 5
Tuscaloosa	11	17	+ 6
Anniston	27	28	+ 1
Selma	33	64	+ 31
Dothan	8	—	— 8
Huntsville	12	23	+ 11
Totals	503	531	+ 28

Again this year, as for the past several years, an effort was made to confirm the cases of Brucellosis showing agglutinin titres of 1:80, or above. Table IV shows the number of clot cultures and citrated blood specimens from which isolations were attempted.

Table IV

Results of Cultures for Brucella

No. of Cultures	Positive	Negative	Br. Suis	Br. Abortus
157	22	135	19	3

In 1942 a further decline in the demand for pneumococcus typing was recorded. Table V presents the statistics relative to the number of sputa submitted for typing and the incidence of types as determined. In view of the infrequent use of this service it would seem advisable to discontinue it in all the laboratories except in Montgomery and in all probability this will be done before the next pneumonia season sets in.

Table V

Types	1941	1942
I	21	7
II	4	
III	16	3
IV	8	
V	14	3
VI	7	2
VII	14	7
VIII	7	3
IX	1	
X	2	2
XI	2	
XII	1	
XIII	1	
XIV	4	
XV	2	
XVI	4	
XVII	2	1
XVIII	2	
XIX	7	
XX	2	
XXII	2	
XXIII	3	1
XXIV	1	
XXV	1	
XXVII	1	
XXVIII	3	
XXIX	1	2
XXXI	2	
XXXII	2	
XXXIII	1	
Unable to type	2	
Mixed	6	1
	146	32
	1941	1942
Positive	146	32
Negative	211	79
Unsatisfactory	16	3
	373	114

BIOLOGIC DIVISION

During the year 1942 the following products were prepared by the biologic division and distributed from the Bureau of Laboratories.

Table VI

Biologic Products Prepared and Distributed

Rabies vaccine	1,231 treatments
Diphtheria toxoid (alum)	114,320 cc.
Diphtheria toxoid (plain)	6,810 cc.
Typhoid vaccine	485,590 cc.
Schick test toxin	1,806 cc.

Sterile normal saline	65,970 cc.
Mercury benzoate solution	8,280 cc.
Sterile distilled water	6,016,300 cc.
Silver nitrate solution	61,400 ampules

In addition to the above the division also filled, packaged and distributed 346 cc. of tuberculin purchased from a commercial laboratory.

Compared with 1941 the noteworthy features of 1942 were the increased demand for rabies treatments, plain diphtheria toxoid, typhoid vaccine, and distilled water for use in the venereal disease program.

SPECIAL ACTIVITIES AND COMMENTS

The laboratory again participated in the Annual Evaluation Study of Serodiagnostic Tests for Syphilis conducted by the U. S. Public Health Service. In this evaluation several hundred blood specimens are submitted by the Service to each participating laboratory for examination by the technic followed in its routine diagnostic work. In the Laboratories of the Alabama State Department of Public Health this is the Kahn Standard Test and our results were 75.5 per cent sensitivity and 100 per cent specificity as compared to 80.7 and 100 per cent sensitivity and specificity in Dr. Kahn's own laboratory.

During the year a considerable amount of time and material outside of the routine was spent on a survey of Mobile Bay with reference to possible pollution in shellfish bearing and recreational areas.

New methods of determining the presence of adulteration in milk in the form of added water have become part of the routine of the laboratory during the year. These tests are based on refractometer and cryoscopic determinations and are a valuable addition to the recently adopted phosphatase test which is the most sensitive test now known to determine proper pasteurization.

Finally, in the matter of personnel the Bureau has continued to suffer losses. This has been due to better salaries paid in other places, to marriage and to enlistment in the military service. The result has been a forced curtailment of services which may of necessity have to be further extended in the future.

Bureau of Sanitation

The Bureau, through its Engineering, Inspection, and Typhus Fever Control Divisions, continued to work directly and through local health departments in an effort to reduce and control the incidence of typhoid fever, malaria fever, undulant fever, typhus fever, amoebic and bacillary dysentery, hookworm, and food poisoning. Other diseases are involved to the extent that the modes of transmission respond to environmental, insect, rodent, or food control.

DIVISION OF ENGINEERING

Public Supplies

The need of equipment and material for war work greatly reduced the scope of improvements to water works during the year of 1942. Critical materials could not be secured unless priorities were granted by the War Production Board. All work with the exception of that for maintenance, operation, and repairs, was prohibited unless the plants needing improvements were located in war areas. To obtain the necessary priorities, financial aid and permission to proceed required a considerable amount of time and effort on the part of the engineers comprising the water and sewage section. On practically all the projects undertaken many conferences were held with members of federal agencies, visits made to the site, and correspondence interchanged with the various agencies.

During the year a total of twenty-nine permits were issued by the State Health Department authorizing the construction of as many projects. These were issued only after checking the plans and specifications of the proposed work as required by legislative acts. Twelve of the permits authorized the installation of complete filtration plants or additional wells; two were for the improvements or enlargements to filtration plants; three were for the installation of sterilizing equipment; seven authorized changing pumping equipment; three were for main extensions and the erection of elevated storage tanks; and two were issued to the Army for filtration plants.

A total of fourteen new plants and systems and new sources of supply were completed or developed during the year. The cities and towns of Childersburg, Dadeville, Florence, and Virginia Mines completed new filtration and purification plants while Foley Air Base, Huntsville Arsenal, Reynolds Metals Company, Camp Rucker, Tuskegee Air Base and Camp Sibert completed new water systems; and with the exception of the Army bases, engineers of the water and sewage section aided in placing the plants in operation.

At the close of the year, fourteen plants and systems were under construction including a twenty million gallon per day filtration plant for the city of Mobile, a new well supply for Montgomery, doubling the filtration plant capacity at Chickasaw, and additions for the filtration plant at Gadsden for three million gallons daily. These were mainly in towns, cities, and communities where the need of additional water facilities was created by war activities; and all of the projects had to be cleared through the War Production Board. Plans and specifications were reviewed and permits issued by the State Department of Public Health before they were presented to federal agencies and before construction work was begun on projects they represented.

Other added responsibilities placed on engineering personnel as a result of war activities were: the development of a mutual aid plan whereby the water works officials could borrow material and supplies from other water works in cases of emergency; conferring with various agencies and officials of water works concerning protection against sabotage, and making extensive surveys in this connection; and conferring with officers of the U. S. Army and Navy concerning many water works problems that were presented on Army and Navy reservations.

Practically every public water supply in the State on record with the State Board of Health with the exception of those in Jefferson County was visited at least once and reports which included recommendations for improvements transmitted to the responsible officials. (The Jeffer-

son County Health Department normally has a sanitary engineer on its staff whose duty is to give supervision to supplies in that County.) A total of 286 visits were made to water plants at which time the equipment was checked and instructions given to the operators. The value of these inspections cannot be measured momentarily nor can the cost of providing such service be evaluated. There are no means whereby improvements to water works structures, and increased efficiencies in plant maintenance and operation methods can be justly compared with the protection of the public health of the State's population and the savings in property damage.

One of the functions of the water and sewage section is to interpret reports of bacteriologic analysis of samples of water submitted to the State laboratories. The 249 water plants in the State submitted a total of 7,600 samples to the laboratories. Approximately 250 letters were written requesting check samples and about 85 were written advising that distribution systems and filters be sterilized. Suggested procedures were included in these letters. Approximately 1,000 cards were mailed to water works advising that samples were due for analysis and about 120 letters were written concerning delinquent samples.

Each filtration, iron removal, and softening plant is required to submit an operation report to the department at the end of each month. The information contained on the reports from the seventy-nine plants is reviewed by the division engineers. Approximately eighty letters were written to water works officials in regard to these reports.

The "Manual for the Control and Operation of Mechanical Water Filtration Plants" which has been available to filtration plant personnel for years in mimeographed form was revised during the year and prepared in printed form.

The Department continued to report to the U. S. Public Health Service on the sources of public water supplies making recommendations in regard to certification for interstate carriers. Inspections of the watering facilities of the carriers were also made and reports transmitted to the Service. In addition to the field work connected with this program considerable correspondence is required.

The potential danger of the water supply at Huntsville has for many years been of concern to the public health officials and reports of inspection have included recommendations for correction. The location of war plants in the area caused officials of the Army to request action for water works improvements. A trailer laboratory was detailed to Huntsville by the U. S. Public Health Service for the purpose of studying, bacteriologically, the public water supplies in the area. The work of the laboratory was under the direction of the State and County Health Departments.

The results of the study brought out the fact that the Huntsville spring, from which the city of Huntsville secures its water and delivers it to the distribution system with no treatment other than chlorination, is at times grossly contaminated. At the end of the year the city was contemplating the employment of a consulting engineer to make a thorough study of the water supply, looking toward obtaining the needed improvements.

There remain several other public water supplies in the State in need of major improvements. It appears at the present time, however, that those concerned must postpone expansion and improvement programs until after the war unless the supplies become dangerous and the War Production Board can be convinced of this fact.

Private Supplies

The supervision and control of water supplies of a private and semi-public nature is important from the standpoint of public health, and the rapid growth of areas in the State due to war activities makes it even more so. Water supplies serving rural schools, roadside stands, parks, and picnic grounds, tourist camps, and many other establishments should be given close supervision; but due to the inadequacy of personnel this phase of the work is not a normal routine function of the Division. Improvement of private and semi-public supplies and supervision is in general performed by the local county health departments when requested and is given to the counties by the division's engineers. No organized programs to secure improvements in these types of supplies and of regular routine supervision have been undertaken by the counties or the State Department.

During the year, however, a total of 951 private or semi-public supplies were installed or improved. (Taken from progress reports submitted by the counties to the Bureau of Administration.) The improvements reported were made in such a manner as to meet the approval of the respective county health departments.

Although promiscuous sampling of unprotected private water supplies is discouraged, the State Health Department laboratories made bacteriological examinations and reported on 2,164 samples from this type of supply during the year. Samples were submitted in sterile containers and mailing tubes, both of which were furnished by the laboratory. In general, only the presumptive test was made.

Engineers with the division made twenty-six inspections of water supplies of a private or semi-public nature and prepared written reports covering each inspection. Over seventy-five letters were written in regard to the submission of samples and explaining that the State Health Department did not make chemical analyses of water.

The preparation of the bulletin "Domestic Water Supplies Other Than Public" mentioned in last year's report was finished and printed during the year. After receiving comments from the various county health departments, the mimeographed copy of the bulletin was revised, incorporating as many suggested items as possible before publishing. The bulletin should be of value to county health workers, particularly those directly interested in improvements in water supplies.

Malaria Control

Two members of the staff of the malaria section were ordered to active duty with the armed forces in the spring of 1942. This loss of personnel plus the added responsibility brought on by

the need for malaria control in areas contiguous to military and essential industrial establishments is reflected by the accomplishments of the malaria section during 1942.

The illness and subsequent death of the Consultant on Public Health Education who had been assigned to the Tennessee Valley counties hindered the progress of the educational program which had been organized in these counties. The program was partially revived in Lawrence, Limestone, and Madison Counties when, through funds provided by the U. S. Public Health Service, a consultant on health education was assigned to promote health education in zones adjoining war areas located in these counties.

In 1941 a malaria control district comprising the northeastern one-third of Colbert County was established. Although revenue from a special tax levied in this district became available in October 1942, no construction work is planned for the duration of the national emergency as equipment, labor, and materials are not available.

All malaria control drainage programs directly supervised and sponsored by the State Department of Health were restricted to military and essential industrial areas during 1942. One of the most worthwhile drainage undertakings in recent years was the rechanneling and provision of an outlet for the Luxapalila Canal which is located in the southern portion of Lamar County. This work was done by the U. S. Engineers and is a direct result of the efforts of interested parties and agencies. This department has repeatedly lent its support to movements designed to eliminate the serious malaria hazard created by the improper original construction of the Luxapalila Canal. Although the malaria menace resulting from ponded and swampy areas existing throughout the lower part of the canal has been considerably reduced the problem will not be completely solved until lateral ditches to the main canal are constructed.

Control of the production of the *Anopheles quadrimaculatus* mosquito on major impoundages was, in general, satisfactory except on Bankhead, Purdy, Guntersville, and Wheeler Lakes. Failure to secure satisfactory control of these impoundages, despite intensified larvicidal operations, was due to the lack of adequate water level fluctuation as in the case of Wheeler and Guntersville Lakes and/or reservoir conditioning and maintenance on Bankhead and Purdy Lakes. Without the operation of intelligently planned programs for the conditioning and maintenance of the shoreline and shallow areas, satisfactory control of the production of the malaria transmitting mosquito using methods now available will be difficult or impossible to obtain on Bankhead and Purdy Lakes. The construction of dyking and dewatering projects on Lake Wheeler has been necessarily delayed for the duration of the national emergency by the restriction of materials and equipment.

The program of malaria control on minor impoundages carried out by the county sanitation officers in their respective counties was, on the whole, encouraging in view of an unpreceded turnover in sanitation officer personnel. The reduction in the staff of the State Department of Health assigned to the malaria section greatly affected this department's participation in the program. However, the ground work laid during 1940 and 1941 was extremely valuable in upholding the policies and practices of this department regarding minor impounded water projects. Due to the press of matters considered more important, personnel of the malaria section were not in a position to assist county personnel in the manner customary during the preceding two years.

Malaria control in areas adjacent to military and essential industrial establishments required over half of the time of the engineers in the malaria section. The program of malaria control in war areas was set up in Alabama in April, 1942. This program, designed to protect military personnel and workers in industries devoted to the war effort, is jointly sponsored by the State Department of Health and the U. S. Public Health Service and is operated under the supervision and direction of this department with funds made available by the U. S. Public Health Service.

The Public Health Service, during 1941 and 1942, assigned six engineers, an entomologist, an administrative assistant and a clerk-stenographer to assist the State in promoting and operating this program. Preliminary malaria surveys were made of four military areas. Reports of these surveys pointing out the prevalence of malaria, location of malaria mosquito breeding areas and recommendations as to malaria control were prepared and submitted to the proper authorities. Following the preparation of the necessary plans larvicidal projects were operated in four areas and drainage operations carried out in five areas. More than nineteen miles of new ditches involving the excavation of 132,940 cubic yards of earth were constructed in these five areas.

Two drainage projects were completed under the state-wide WPA malaria control project during the year. At the close of the year drainage projects were in operation in three areas and proposed for another area under the program sponsored by this Department and the Public Health Service. All larvicidal operations carried out during the year were also handled under this program. Entomological inspections were made around thirteen military or industrial zones as a check on control efforts. The results of these inspections as well as reports from the various cantonment areas indicate that satisfactory control of the malaria mosquito was obtained. It is expected that the malaria control program in war areas will consist mainly of maintenance work and intermittent larvicidal operations during 1943. Over one-half of the work of the malaria section during 1943 was in connection with this program.

A proposal for screening and mosquito-proofing approximately 296 houses in areas adjacent to Guntersville Reservoir as a joint undertaking by the Tennessee Valley Authority and the State Department of Health did not materialize due to the restriction of critical materials. However, maintenance work was performed by the Tennessee Valley Authority on 646 of the houses pre-

viously screened and mosquito proofed in Lake Wheeler areas.

Special investigations of mosquito and malaria problems were made of five areas mostly in connection with the proposed location of military establishments.

General Sanitation

In those areas where sewer connections cannot be made, septic tanks and pit privies are necessary to give protection against hookworm and enteric diseases. Despite the decreasing number of sanitation officer personnel, the ever-increasing shortage of manpower and the shortage of building materials, 9,646 new units of approved sanitation were made. These installations together with 823 restored units extended public health protection to a total of 59,625 persons. Resignations, armed forces duty, and the inability to find men qualified to be employed to receive training fitting them for sanitation officerships reduced the number of counties enjoying this fundamental service from fifty-six to forty-one. Since men with proper basic qualifications are becoming increasingly difficult to recruit, present indications are that greater instability with regard to personnel may be expected for the coming year.

Provisions have been made through legislation whereby incorporated towns' and cities' sanitation can be placed on such a basis as to adequately protect the public health. At present, such provisions are not available to the areas outside the corporate limits of the municipalities. Alabama needs additional legislation which will grant to the county-governing bodies certain authorities before a full solution of the problem in connection with hookworm and enteric diseases will be found.

This Division cooperated with the following agencies in the construction of septic tanks and privies, and the measure of participation is stated.

Farm Security Administration: The plans and specifications for pit privies previously drawn up and adopted by the two divisions of this agency continued to be used. A well-defined and planned program was not carried out. The allocation of grants to counties without sanitation officers, the scarcity of materials, and the instability of Farm Security supervisory personnel all contributed to the comparatively small volume of work completed.

Federal Housing Administration: The Sanitation Section cooperated with the Federal Housing Administration, as in previous years, in the installation of septic tanks on properties securing loans through that Agency. The Agency continued to use specifications governing septic tanks and disposal fields which were previously drawn up and adopted. The specifications were intended to fully cover the requirements in regard to commercial tanks as well as the type recommended by this Department. Requirements with reference to materials are administered by the Federal Housing Administration.

Work Projects Administration: Only seven counties had WPA sanitation projects at the end of last year and during this year the number continued to dwindle. By the end of the year, this phase of sanitation work had ended in all but several instances where it was necessary to complete particular jobs.

Sanitation in War Areas: The Sanitation Section continued to give advisory aid and assistance in and around war areas of the State. In some instances, the problem around these areas decreased due to the completion of construction activities. Also, enough housing projects had been completed in a majority of the areas to greatly relieve the situation.

Sanitation Personnel Training: Training of personnel is recognized as an essential and necessary function of the Bureau of Sanitation. However, due to the inability to obtain qualified men only one group of five was given field training and assigned to counties. This group was trained at the Field Training Station at Opelika. Two men completed the Sanitation Officer Short Course at Vanderbilt University and two others who began the course in November will complete it in March, 1943. Rather than attempt to train the type men now generally available, plans were made to keep the most important vacancies filled by transferring trained and experienced men from relatively less important counties and leaving those places vacant for the time being.

Sewerage

During the first half of the year 1942, the construction of sewage treatment plants and municipal sewer systems and extensions continued at a rapid rate. However, during the year the government placed restrictions on certain materials which were critical to the war effort. These regulations prevented practically all new construction on municipal sewerage facilities and prevented one treatment plant that was under construction (Talladega) from being completed. The work on government reservations and federal housing projects was speeded to completion as the war activities expanded.

The records show that seven new municipal sewage treatment plants were constructed, three existing plants were enlarged or improved, and four cities extended their sewer system. There were two communities that constructed primary sewage treatment plants; and three sewerage systems were constructed for the federal housing authorities where it was impossible to connect their sewer systems to existing ones.

Eleven sewer systems with treatment plants were constructed on federal government reservations and one outfall sewer was connected to a municipal system.

The practice of checking engineering reports and plans and specifications of all projects submitted by consulting engineers was carried out by the engineers assigned to the Water and Sewage Section of the Bureau of Sanitation. Discussions, oral and written, with the consulting engineers were held if the proposal did not meet the State Board of Health's recommendations or were not in accordance with good engineering practice. After agreements were reached construction permits were issued to the owners of the above projects. By following this procedure

the Bureau has fully cooperated with the consulting engineers and has received their confidence.

Upon the completion of the sewerage system at Hartselle, all of the fifty-nine cities in the State with a population of 2,500 people and over have sewer systems. As to be expected, the majority of the smaller communities are not provided with sewer systems for practical and economic reasons. The following is a breakdown of the smaller communities according to population and sewer systems: 50 of the 63 towns with a population between 1,000 and 2,500 people have sewer systems; 23 of the 70 towns with a population between 500 and 1,000 people have sewer systems; and only 2 of the 86 towns with a population less than 500 people have sewer systems.

The official census for 1940 shows that there were 1,033,753 people living in incorporated communities in Alabama. It is estimated that municipal sanitary sewers are available to 1,010,000 people and that 801,000 people are served by these systems. There are fifty-three privately owned sanitary sewer systems and it is estimated that they are available to 107,000 people and that 104,000 people are served by these systems. It can be seen that it is necessary to construct auxiliary units in communities as well as in rural areas if sanitary disposal of human waste is to be attained.

This summary indicates that sanitary sewers are available to 36.7 per cent of the total population in the State and that 32.1 per cent are served by sewer systems.

The following municipalities constructed or placed in service during the year 1942 a new sewerage system or sewage treatment plants: Albertville, Childersburg, Cullman, Enterprise, Hartselle, Jacksonville, Jasper, Red Bay, Sylacauga, and Thorsby. The Tennessee Coal, Iron and Railroad Company constructed a treatment plant at its Bayview village in Jefferson County. A new, modern, and adequate sewage treatment plant was constructed by the Gulf Shipbuilding Corporation to serve its village and the federal housing projects at Chickasaw, Mobile County. The State Agricultural and Mechanical Institute, which is located near Huntsville in Madison County, constructed a sewage treatment plant for the State owned school. A federal housing project with a sewerage system was constructed at Farley, which is located in Madison County near Huntsville.

It is felt that the following municipalities are in need of major improvements to their sewer systems or sewage treatment plants: Anniston, Attalla, Birmingham, Dothan, Marion, Montevallo, Montgomery, Mobile, Talladega, and Union Springs. Improvements of the Anniston and Mobile sewerage systems were underway at the end of the year and the construction should be completed during 1943. Construction of a complete sewage treatment plant was started at Talladega but was held up by the War Production Board due to the shortage of critical materials.

A special study of the pollution in Spring Creek near Huntsville was made by a bacteriologist with a trailer laboratory furnished by the U. S. Public Health Service. The State and local health departments gave directions and assisted in the study. The conclusions obtained from the results collected are that the sewage from the city of Huntsville should be treated before it is delivered to the receiving stream and that the effluent from the septic tank that was constructed by the Farm Security Administration be given further treatment if this camp remains at its present location.

Since federal agencies have restricted the use of certain critical materials that will be needed for the construction of the treatment plant units it will be necessary to defer this work until after the war. Whenever the restrictions are removed and the materials become available these improvements should be made.

The Chattahoochee River at West Point, Georgia and Lanett, Alabama is polluted by untreated sewage from these cities. The West Point Manufacturing Company also contributes some pollution from its mills and mill villages. Since the Lanett and the Fairfax domestic water supply filtration plants take their raw water from this stream, adequate treatment of the sewage and waste, especially above the waterworks intakes, should be provided.

Drafting

The year's work in the drafting department during 1942 has followed largely the program outlined in 1941 with the critical areas of the State again receiving the major share of attention.

A considerable amount of special work was done for various divisions of the Health Department in promoting their year's program. Here again the need emanated from the congested areas in the State where military reservations and defense centers were established.

The Bureau of Sanitation moved into new quarters in September and the drafting department was given somewhat larger quarters than had heretofore been available. Special effort was directed toward the construction of more adequate and convenient storage space for approximately 3,000 valuable tracings and waterworks and sewerage plans which belong to the department. As a result, the work of handling requests from this source will be greatly facilitated and it is believed the new quarters will be sufficiently large for a while. In the meantime, there is an urgent need for a suitable and more accessible room for housing the library of technical magazines, bulletins, and pamphlets which form a valuable source of information for the department.

Public Swimming Facilities

As stated in previous annual reports, the Department does not have statutory control and supervision of swimming pools or other swimming facilities. The recommendations on the designs, equipment, and operation of swimming pools are in accordance with the "Report of the Joint Committee on Bathing Places, Conference of State Sanitary Engineers, 1937."

DIVISION OF INSPECTION

The staff of the Division remained intact throughout the year, and, in addition, one inspec-

tor was added on June 1. This year again was marked by many transfers of local inspection personnel from one county to another in an effort to keep inspectors in important counties and defense areas, as well as by a number of resignations and calls to the armed services. Sixty-three food sanitation ratings were made for 51 counties during the year. The average food sanitation rating was 2 per cent lower than for last year. Two small food-borne epidemics occurred during the year.

At the end of the year, inspection programs were being carried on in only 44 counties as compared with 55 a year previous. Included in these 44 counties were 8 in which a single inspector was serving 2 adjoining counties. Of the 23 counties not now carrying on inspection programs, this lack is due to failure of the local governing bodies to make appropriations for the program in only 11 counties, the vacancy in the remaining 12 occurring because of inability to find inspection personnel.

Shortage and restrictions on much equipment for food manufacturing and serving establishments, dairies, and milk plants increased throughout the year. This was especially true for essential equipment containing metals such as boilers, water heating equipment, wash vats, plumbing supplies, and pasteurization plant equipment. Labor shortage also became a serious problem. In addition, increased volume of business especially in defense areas, usually without the operators being able to increase equipment, facilities, or help offered serious handicaps to sanitary operation of these establishments. Much time was devoted to attempts to assist operators in securing essential equipment. Because of restrictions, priorities were necessary to secure most of this. Changes in forms and regulations regarding priorities were confusing to operators, dealers and inspectors, thus making the problem more difficult.

The Division continued to act as a clearing house for intercounty sale of foods having certified to 67 establishments. The number of intercounty establishments decreased during the year due to shortage of ingredients, increased local demands for products, and restrictions such as tire rationing.

Problems concerning food handling establishment and public housing of workers in defense areas consumed considerable time. One inspector was assigned to work in defense areas practically entirely throughout the year. Personal conferences with various officials, especially army and other governmental representatives, concerning the multitude of problems of mutual interest arising from the defense effort, consumed a great deal of time of practically every member of the staff. Training and orientation of new county inspectors again consumed a good part of the state inspector's time during the year. Problems arising from shortage of certain foods such as meat, milk, and food ingredients brought up numerous new problems.

The sanitary control of soft drink bottling plants was continued at a reasonably satisfactory level. Restrictions on metal for manufacture of bottle crowns made it necessary to make some study of the problem of cleaning and disinfection of used crowns so that they might be reused. After all of the information which could be found at that time including some original research done in the State was assembled and studied, an outline for reclaiming crowns was prepared and several places in the state installed equipment for this. The cooperative work with the Alabama Beverage Control Commission continued. Thirty-one food establishments wishing to secure licenses for sale of alcoholic beverages were inspected and certified to the Commission.

Hotel inspection continued as one of the major duties of the Division. Eight new places began operation while 15 discontinued operation as hotels. Inability to secure materials for needed improvements was largely the cause for discontinuance.

The shortage of milk which became rather widespread late last year increased throughout the year so that it is estimated that there was a shortage of 13,000 gallons per day for the State as a whole at the end of the year. This was despite the fact that approximately 10,000 gallons per day more graded milk was being produced at that time than was sold at the same period in 1941. It was estimated that milk sales for the state as a whole increased 23% during the year. The armed forces alone were purchasing at least 6,000 gallons daily at the end of the year. Suggestions, orders, and recommendations of various governmental agencies contrary to ordinances and policies enforced in this state created enormous confusion regarding milk supplies and their approval which adversely effected orderly supervision and sale. This was one of the most disconcerting and time consuming problems of the Division at least for the last part of the year. The Division continued to act as a clearing house for information regarding the quality of practically all milk shipped inter-county. Such shipments were far larger than in any previous year because of the enormously increased demands in defense areas.

The consumption of pasteurized milk increased materially in communities where it was available. No pasteurization plants were installed in communities where pasteurized milk had not been available, largely due to restrictions on purchase of equipment. It was estimated that 60% of all the market milk sold in the state during December had the added protection of pasteurization even though a rather large number of the smaller and medium size cities did not have any pasteurized milk. One milk-borne epidemic of gastroenteritis involving some 200 cases, apparently caused by staphylococus in raw ice cream, occurred late in the year.

Advisory assistance on milk sanitation was rendered to the county health departments in 48 counties. During the year, one city amended its milk regulation to conform to the latest State Board of Health Milk Regulations. One city which had not previously carried on a milk sanitation program passed a milk ordinance. Thirty-five milk sanitation ratings were made. The quality of milk as a whole for the State was slightly lower than in previous years despite increased efforts on the part of the Division Staff and local Health Departments. Labor and equipment short-

ages, demands for milk in excess of the capacity of a number of plants, changes of local inspection personnel, and shortage of milk itself all affected quality.

The shellfish sanitation programs were continued. The number of oyster shucking plants and crabmeat picking plants decreased materially during the year. This decrease was probably due largely to scarcity of labor since the price and demand were both unusually good. Through the assistance of the U. S. Public Health Service and a field laboratory supplied by it, a bacteriologic study of oyster bearing waters extending over several months was made.

DIVISION OF TYPHUS FEVER CONTROL

The number of typhus fever cases reported in 1942 was the highest since 1939. The fatality rate of 1.06 per cent is the lowest since typhus was made reportable in the State. The disease was reported from thirty-six counties, though no cases were recorded in any county that had not previously reported cases. It seems, however, that new typhus infected reservoirs have become established in rural areas. This increased the incidence of typhus in nine counties, the heaviest coming from the southeastern section of the State. Because of this increase, studies to determine the exact location of typhus infected reservoirs of rats was begun. The ecto parasite counting and identification work was done by the U. S. Public Health Service, Typhus Division. These studies had to be discontinued, however, because of the removal of the U. S. Public Health Service Research Laboratory and further, because Rickettsia antigen, essential in making tests on blood of suspected rodents, cannot be obtained. The Division is trying to work out some program whereby antigen can be made locally and research work continued.

An air compressor and equipment for the use of hydrocyanic dust was acquired through the U. S. Public Health Service, Typhus Division, which made it possible to use hydrocyanic dust for fumigation. This is a new activity in the Department, and while highly effective, is dangerous and cannot be done except by proper equipment and trained personnel. It is the recommendation of this department that no county health officer nor his agents shall use hydrocyanic acid or other lethal gases unless entirely familiar with handling these gases and is equipped with U. S. Bureau of Mines approved gas masks. Further and more complete recommendations concerning this follow in the year's annual report. Rat stoppage is another activity which has been added to the Bureau. This is a modified method of rat proofing approved by the U. S. Public Health Service. Several programs employing this method are underway, but their effectiveness as control measures cannot be determined at this time.

Due to the concentration of the civilian population near army cantonments and industrial plants, rat control has become more of a problem than ever before. Facilities for storing and removing refuse and garbage are limited. Metal cans cannot be obtained for garbage. Meat, sardines, and other materials essential in the preparation of rat bait have been frozen by the Government. Equipment for the use of gas and for garbage collection and disposal has such high priority rating that only the armed forces are able to qualify. It is the opinion of this department that if these restrictions are not modified sufficiently to allow the purchase of materials necessary for rat extermination, and rat stoppage, the incidence of rat-borne disease will become a greater problem than ever before. Furthermore, the economic loss incurred by these animals should be of grave concern at this time when all efforts are being concentrated on the conservation of food supplies.

Bureau of Maternal and Child Health

A resume' of each division's activities follows. The Bureau has attempted to carry on as many of the usual services as reduced personnel, shortage of physicians and dentists for part time clinicians have permitted. It was thought that the loss of county health officers would seriously affect the operation of the clinics. However, the Director of the Bureau of County Health Work has so combined, in several instances, two counties under one health officer that the program of maternal and child health service has been little disturbed.

We were rather enthusiastic last year when we started a Division of Mental Hygiene, but while it was in the beginning stage we lost the entire personnel. The psychiatrist, director of the division, entered the Army on April 4, 1942, and the psychiatric social worker, his assistant, resigned May 1, 1942. The activities of this division are summarized later.

The Director of the Division of Child Hygiene resigned to join the staff of the Children's Bureau on July 1, 1942. Our other pediatric consultant resigned about three months later. We have not been able to secure the services of a pediatrician to replace those lost by virtue of these resignations from the staff. This loss is keenly felt, and there has been practically no supervision of the child health conferences and no pediatric consultants since September 1942.

The Consultant in Midwife Control resigned, and her duties were taken over by the Consultant in Maternal and Child Health Nursing and the advisory nurses.

DIVISION OF MATERNAL HYGIENE

Henry W. Clapp, M. D., Associate in Charge of the Division of Maternal Hygiene, was given military leave in July 1942. John Newdorp, M. D., Consultant in Obstetrics, resigned to accept an appointment into the U. S. Public Health Service in May 1942, to serve as Deputy Medical Director for the Alabama State Civilian Defense Council. William A. Cunningham, M. D., came with the division November 17, 1942 as Obstetric Consultant. During the interim, Eva F. Dodge, M. D., Consultant in Public Health Obstetrics, carried on the work of the Division. Walter Gerstle, M. D., Fellow in Public Health Obstetrics, worked in the maternity clinics in the counties. This service was most valuable coming at a time when two-thirds of the consultant staff was away on military leave. Miss Margaret Murphy, R. N., Advisor in Midwife Control, resigned in October 1942. Her duties have been taken over by the

advisory personnel of the nursing division. The work of the Division has continued along the lines of previous years with no new duties added.

Clinics

During 1942, thirteen clinics in four counties were discontinued temporarily for various reasons. Only one county, Franklin, started a maternity clinic in 1942, though ten new centers were opened; and in several counties additional sessions were operated. There were 106 centers at the end of 1942, in forty-eight counties. There has been no increase in the number of clinic centers nor the counties operating maternity clinics. An effort has been made to improve the physical set-up as well as service rendered to the patient. Several clinics have been discontinued until adequate housing conditions can be found. The 1943 plans include the discontinuance of any clinic center that cannot meet minimum standards, as the emphasis will be on quality rather than quantity. This is becoming increasingly necessary, due to the decrease in the number of doctors in many communities and the increase of the work of those not in military service.

The clinic sessions were increased 19% as compared to 38% for 1941; while there was no appreciable increase in the number of patient visits. While a few more patients came for their postpartum examinations, there was not any increase in the percentage of patients returning for these examinations. There has been no appreciable change in the month of pregnancy when the patient first comes to the clinic—over half coming before the fifth month and nine-tenths by the seventh month.

Venereal Disease

There is no decline in the number of reported losses with venereal diseases in the colored maternity clinic patients. Only 88% of all the clinic patients had blood tests reported; where as it is recommended that blood tests be made on every prenatal clinic patient.

The percentage of positive blood tests in the white patients was only 20% of those reported in 1941. Of all patients with syphilis 72.4% were treated and received an average of 12.6 treatments each.

Midwife Control

The Advisor in Midwife Control resigned in October 1942, and her duties were taken over by the state advisory nurses in their own districts.

A nurse-midwife service has been established for Negroes in Marengo County, staffed by a graduate of the Tuskegee School for Training Nurses in Midwifery. The activities of this service are being jointly supervised by the obstetric consultants and the Division of Public Health Nursing. A similar service for white patients is being organized.

DIVISION OF CHILD HYGIENE

This division has been without a staff pediatrician since August 1, 1942. During the first half of the year, the services continued as usual and improvement was noted. Since the pediatric consultants have both resigned, it has been impossible to visit and supervise the child health conferences by a physician, though the advisory nurses have rendered valuable services at these conferences when visiting the counties. Several conferences were discontinued because of poor attendance, lack of need of the conference, or inability to secure part time clinicians.

During the year, 1,229 children were admitted to medical service and made 3,362 visits to the conferences. The county health nurses made 19,149 nursing visits to infants and preschool children. At the schools 26,226 pupils were examined by physicians.

The Acting Director of the Bureau has made several talks on child health to groups such as clubs, parent-teacher associations, nurses' aid classes, and others.

Disappointment is felt that the Division's plans and charts for making incubators for premature infants are not ready for distribution. Because these were not essential war materials, the WPA could not furnish them. Later the plans will be printed by the Department.

The effort to secure pediatric consultants will be continued.

DIVISION OF NUTRITION

There has been a continuance of the effort to improve the health and well-being of families by the practical application of the scientific knowledge and basic principles of normal nutrition.

The service is one of education, advice, and consultation. Many contacts have been made with groups such as nurses, teachers, parents, school lunchroom workers, and others. Tuberculosis sanatoria have been visited and recommendations given about the diet and preparation of the meals.

The nutritionist participated in seven nutrition workshops in various sections of the State, and she has attended all meetings of the State Nutrition Council. Many leaflets have been prepared for distribution to those interested. Some titles of these are: "The Home Packed Lunch," "Food for the School Child," "Food during Pregnancy," "A Guide for Selection of Food for Patients with Tuberculosis," and "Summary of Vitamins." Certain counties have made many requests for these leaflets.

Special attention was given to the improvement of school lunches.

There being but one nutritionist to serve the State, the effort is made to reach as many persons as possible through group meetings rather than by individual conference.

During the year, 89 visits were made to 39 counties. Group meetings with educative talks and demonstrations reached 2,782 persons.

DIVISION OF MENTAL HYGIENE

This division was discontinued in April 1942 because of the loss of the director and his assistant. The service was just being introduced, and the work was necessarily educational, the laying of the foundation for a program.

During the three months, the psychiatrist saw and treated 35 children in the seven counties where clinics were held. These children were referred by physicians, school teachers, and so-

cial workers of the Department of Public Welfare. From the case records, it can be seen that a number of the children showed improvement. It can hardly be said that this division was really organized, but consensus of opinion is that its continuance would ultimately have been of great benefit.

DIVISION OF DENTAL HYGIENE

In April 1942, the director entered the Army, and Dr. John E. Chrietzberg was transferred from the East Alabama Health District as Acting Associate in Charge. Two more dentists were added to the staff of the Bureau, and an oral hygienist started duty on January 2, 1943.

The program of promotion, organization, and conducting of dental clinics has continued along the plan developed by Dr. Edwards.

Prophylactic and dental corrective services are now offered not only to pupils in the elementary schools but also to dentally indigent preschool children, to children of enlisted men, and to prenatal cases referred from the maternity clinics. Eligibility of school children is usually determined by the teachers.

During the year, 52,547 school children received dental inspections and 44,793 had some form of dental defects. About 50% had cavities in the permanent teeth, and more than that had decayed deciduous teeth. In the educational phase of the program, great emphasis is placed on the importance of the prophylactic care of the deciduous teeth. Lectures were given to groups, to parent-teacher associations, and to teacher institutes.

Dental clinics are operating in 22 counties, seven more than in 1941. During the year, 5,103 patients made 7,660 visits to clinics. In 2,395 children all the dental work was completed. The part-time dental clinicians received $9,151.50 for their services. The cost per operation was fifty-five cents.

Public interest and support of this service have markedly increased. Local communities and official bodies seem more willing to appropriate funds for dental clinics than for other services. This is probably because the benefits and results are noticed almost immediately.

Bureau of Vital Statistics

During normal times the Bureau of Vital Statistics discharges the function of registering and indexing vital records and of tabulating and preparing statistics relating to births, deaths and other vital events. These activities are usually carried on with a staff of fewer than twenty persons. However, in this time of war, with the great demand for certified copies of birth, death and marriage records a much larger than the usual staff is necessary and even with a staff three times that needed in normal times much of the usual work of correcting records and improving registration and in perfecting routine office procedure has been neglected from necessity. It has been necessary to use all personnel to serve persons who need copies of records or who must file a birth record now because no record was filed at the time of birth. This delayed registration absorbs fully fifty per cent of the time of the Bureau's staff. Furthermore, delayed registration is an activity superimposed upon the Bureau over and above its normal function of registering current births, deaths, stillbirths and marriages. It can be seen that war time needs have placed demands upon the Bureau which were not anticipated and which it has not been equipped in staff nor physical equipment to meet. Furthermore, normal routine procedure long established did not lend itself to the great volume of work that suddenly developed. Consequently, the Bureau has found that before adjustments could be made a backlog of work piled up and current demand has continued to be greater than that which could be met. At present, the Bureau has made adjustments that make it possible to accomplish a quantity of work equivalent to that which comes in from day to day. However, it has been impossible to catch up on the backlog and to keep current with the demand. The Bureau now finds itself in the position of servicing prior requests and many complaints and trying to handle the current volume. As a result the quality of work is not good, the organizational morale tends to be low, and there is a tremendous turnover in personnel.

Organization Within the Bureau

During 1942 the personnel numbered approximately ninety persons. This figure includes the WPA Clerical Project numbering about forty persons who did not work a full schedule of hours. It should be pointed out that it has been rare indeed for a full staff to be working; this has been due to the great turnover in staff among both state employees and WPA workers. There has been a lack of delegated authority and responsibility among persons on the staff. There has been no division of functions within the Bureau nor recognized leaders nor supervisors other than the Bureau Director.

The WPA Clerical Project was liquidated at the end of January, 1943, and the Bureau thereby lost a large part of its already inadequate staff. Even though the general quality of WPA workers has declined as other employment has attracted those better qualified, the Bureau has gained valuable assistance from the WPA project.

The present director of the Bureau is planning some organization of the work and expects to name experienced and qualified staff members to head up each division. This action should improve efficiency and productivity and should reduce personnel turnover substantially.

General Activities

More than 61,000 parents received notifications during 1942 that the record of birth of their child has been placed on file. This notice, called a Notification of Birth Registration, is usually mailed within three months of the date of birth. At present a method is under consideration to reduce by approximately six weeks the interim period between birth and notification to parents.

The demand for certified copies of certificates contained the rapid upward trend begun in 1940. The Bureau issued 76,107 certified copies in 1942. This was an increase of 50,000 or about 300 per cent over the number issued in 1941. In 1940 only 10,853 certified copies were issued. Although cer-

tified copies were more in demand, 42,619 non-certified copies of records were issued in 1942. These copies were issued primarily for school entrance purposes although selective service used this method for verifying ages of registrants.

Each year a large number of searches must be made in connection with various phases of the work—such as, in fulfilling requests for certified and non-certified copies, in follow-up work in checking registration, in making corrections on certificates, and in filing delayed certificates. These searches totaled 245,352 during 1942. In 1941 searches numbered 155,579.

Many certificates were received incomplete or obviously in error and it was necessary to secure their completion by returning them or by obtaining the additional information by questionnaire. A large portion of the usual correction work has been temporarily abandoned in order to concentrate on issuing certified copies and in filing delayed certificates. It has been found through experience that many records on file contain errors that are not detected until a certified copy is issued. These errors are usually in the birth date of the child and in the names of the parents. Sometimes the errors are in color and sex. The attending physicians and midwives are probably responsible for a majority of these errors. It has been found that corrections and name additions to records on file require about the same amount of clerical time and effort as it requires to file a delayed certificate. A hand tally of a sample of volumes of birth certificates filed since 1908 shows that about fifty per cent of all birth certificates on file must be corrected or must have the child's name added before a certified copy can be issued. No record has been kept of the total number of corrections made and queries mailed for corrections, but fully one-half of all certified copies issued are from corrected certificates.

In accordance with the laws concerning adoptions, a copy of each decree of adoption granted in the probate courts was sent to the Bureau of Vital Statistics. A new birth certificate in the name of the adopting parents was prepared for each case and was substituted for the old one. There were 303 adoption certificates made.

Original certificates of birth, death, stillbirth and marriage are received monthly. These are systematically arranged, numbered and bound in volumes for permanent preservation. In 1942 a total of 146,576 such certificates were received and processed; of these, there were 72,514 birth certificates, 26,417 death certificates, 2,387 stillbirth certificates and 45.258 marriage certificates.

In addition to the other work of the Bureau, service was rendered answering requests for information relating to vital statistics. This work consisted of routine duties such as population estimates, preparing codes, compiling data on vital statistics and in continuing cooperative work with the U. S. Bureau of the Census.

At present additional needed equipment is being obtained for the Bureau insofar as the budget, material priorities and office space will permit. Forms and office procedures are being simplified and it is anticipated that the Bureau's work will soon be on a current basis.

Trends in Vital Statistics

The statistics included in this report are provisional and may undergo some revision when the final tabulations are made of the 1942 births, deaths and stillbirths. Furthermore, the tremendous population shifts from place to place and the change in the usual composition of the population will be reflected in the rates calculated. Because of the recent and continued population shifts since the 1940 census enumeration great difficulty has been encountered in arriving at satisfactory population estimates for calculating rates worthy of comparison with those of prior years. All figures shown for 1942 and for previous years are provisional.

Births: A total of 72,514 live births were registered in Alabama during 1942. This is the largest number of births ever to be registered in one year in Alabama. The birth rate is the highest ever attained during the history of Alabama's registration of vital events—the rate being 25.2 births for each 1,000 of the population of the state. The five year average birth rate for the period 1937-1941, inclusive, was 22.3 births per each 1,000 of the population. A comparison of this rate with the 1942 rate shows that there were just about three more births in each 1,000 of the total population in 1942 than there was during the five year period 137-1941. In other words the 1942 rate increased about 12.4 per cent over the average for the preceding five years.

Stillbirths: The recorded number of stillbirths in Alabama during 1942 totaled 2,387, making a rate of 31.9 for every 1,000 total births. This is about 5.7 fewer stillbirths for each 1,000 births than was reported in 1941, and about 7.8 fewer stillbirths for each 1,000 births than was reported for the five year average during the period 1937-1941, inclusive. Thus it is seen that the number of stillborn babies is continually declining in proportion to the total number of births.

Deaths: There were 26,417 deaths reported in 1942 for Alabama. The rate was 9.2 deaths in each 1,000 of the total population. This rate is lower than the 1941 rate (10.1 per 1,000 population) and is also less than the average rate for the five year period 1937-1941, inclusive, (10.5 deaths in each 1,000 of the population).

Only four main causes of death showed an increased rate in 1942 over the previous five year average; these were relatively small increases, however, and may be entirely reversed when final and complete tabulations for 1942 are available. The ten most important causes of death ranked in importance according to the rate for each 1,000 deaths in Alabama in 1942 are given in the table below. Also included in this table is the number of deaths and the rate for 1941 and the average for the past five years, 1937-1941, inclusive.

Number and Rate of Deaths by Major Causes

Cause	1942		1941		Five-Year Average (1937-1941, inclusive)	
	Number	Rate*	Number	Rate*	Number	Rate*
Heart diseases	4,801	166.9	5,049	176.8	4,832	171.4
Intracranial lesions	2,329	81.0	2,398	83.9	2,244	79.6
Nephritis	2,140	74.4	2,423	84.8	2,414	85.6
Accidents	2,105	73.2	2,151	75.3	1,921	68.1

Cancer	1,843	64.1	1,805	63.2	1,741	61.8
Pneumonia	1,451	50.4	1,536	53.8	1,963	69.6
Tuberculosis	1,329	46.2	1,473	51.6	1,584	56.2
Homicide	391	13.6	427	14.9	502	17.8
Diabetes mellitus	390	13.6	346	12.1	337	12.0
Puerperal causes**	292	39.0	335	50.3	374	57.0

*Based upon the total number of deaths recorded (per 1,000 deaths)
**Based upon the total number of births recorded (per 10,000 births)

Infant Deaths: In 1942 deaths among infants under one year of age numbered 3,634; the death rate (50.1 per 1,000 live births) decreased from 58.7 per 1,000 live births in 1941 and from the average of 61.0 per 1,000 live births for the five years of 1937-1941, inclusive. In 1942 the neonatal deaths numbered 2,214 making a rate of 30.5 per 1,000 live births. This is a decrease from the 1941 figure of 2,266 neonatal deaths with a rate of 35.4 per 1,000 live births. Comparable data are not available for the five year period 1937-1941, inclusive.

Deaths from Childhood Diseases: Death rate from each type of this group of diseases was lower in 1942 than in 1941 or for the five year average (1937-1941, inclusive.) The accompanying table shows the number of deaths and rate for each type of childhood disease for 1942, 1941 and for the five year average.

Deaths from Childhood Diseases, by Type

Cause	1942 Number	1942 Rate*	1941 Number	1941 Rate*	Five-Year Average (1937-1941, inclusive) Number	Five-Year Average (1937-1941, inclusive) Rate*
Malaria	95	3.3	120	4.2	193	6.8
Whooping cough	93	3.2	134	4.7	159	5.6
Diphtheria	44	1.5	68	2.4	81	2.9
Measles	31	1.1	103	3.6	77	2.7
Poliomyelitis	19	0.7	67	2.3	27	1.0
Typhoid fever	9	0.3	24	0.8	45	1.6
Scarlet fever	4	0.1	13	0.4	14	0.5

*Based upon the estimated population (per 10,000 population)

Part III of the Board's report was adopted.

The report of the Board, acting in its three capacities, was adopted as a whole.

REVISION OF THE ROLLS

The next order of business being the revision of the rolls of the Association, the Secretary was directed by President Searcy to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; and, third, dues are to be remitted for each member not exempt from payment of dues."

With this foreword, the revision proceeded.

1. *Revision of the Roll of County Societies*:

(a) County societies which have fulfilled all their constitutional obligations: Baldwin, Barbour, Bibb, Blount, Bullock, Butler, Calhoun, Chambers, Cherokee, Chilton, Clarke, Clay, Coffee, Colbert, Covington, Crenshaw, Cullman, Dale, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Hale, Houston, Jefferson, Lauderdale, Lee, Limestone, Lowndes, Macon, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Montgomery, Morgan, Pickens, Randolph, Shelby, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Wilcox, Winston—Total 51.

No objection being made as to the correctness of this report, the President directed that these societies be passed as clear on the books.

(b) County societies partially delinquent: In that they are not represented by delegates at this meeting of the Association—Autauga, Choctaw, Cleburne, Conecuh, Coosa, Dallas, Greene, Henry, Jackson, Lamar, Lawrence, Perry, Pike, Russell, St. Clair and Washington.

No objection being offered as to the correctness of this report, the President directed that these societies be passed.

County societies totally delinquent: None.

Thereupon the Secretary said: "In revising the Roll of the College of Counsellors, five lists are prepared, designated respectively: (1) the schedule of counsellors clear on the books in regard to attendance and dues; (2) the schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) the schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the State, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing, and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision was continued.

2. *Revision of the Roll of Counsellors*:

(a) Counsellors clear on the books: Abbott, Acker, C. T., and P. J. M., Alison, Anderson, Austin, Belue, Boyd, Bragg, Brown, Brunson, Cannon, Carter, Chenault, Cloud, Cocke, Collier, Craddock, Dabney, Daves, Davis, Eskew, Ford, Garber, Gibson, Granger, Gresham, Grote, Hagood, Hatchett, Hill, R. C., R. L., and R. Lee; Hodges, Howell, Hubbard, Isbell, Jackson, Jones, Killian, Killingsworth, King, Ledbetter, Lester, Lewis, Martin, Mason, McCall, McCaslan, Moore, C. W. C., and D. S., Morgan, Noland, Oswalt, Owings, Parker, Perdue, Redden, Riser, Roan, Salter,

Scarbrough, Searcy, Sewell, Sherrill, Shropshire, Simpson, Skinner, Smith, G. R., J. P., and M. E., Stabler, Stallworth, Tankersley, Taylor, Thacker, Tillman, Walker, Walls, Walsh, Waters, Watson, Weil, Welch, Weldon, White, Whiteside, Wood, Woodruff, Wright.

In the absence of objection, the President ordered passed the names of these counsellors reported as clear on the books:

(b) Delinquent Counsellors: None.
(c) Miscellaneous Counsellors:
(1) Life Counsellors who have died: J. S. Crutcher and A. B. Price.
(2) Active Counsellors who have died: G. S. Graham.
(3) Active Counsellors who have moved: F. W. Pickell.
(4) Active Counsellors who have resigned: C. G. Laslie.
(5) Active Counsellors of twenty years' standing: P. J. M. Acker, M. Y. Dabney, B. S. Lester, D. T. McCall, H. B. Searcy, C. W. Shropshire and A. A. Walker.
(6) Counsellors-Elect who have properly qualified: W. J. Barber, C. N. Carraway, Earle Conwell, C. G. Godard, G. O. Segrest, J. W. Simpson of Birmingham, and F. C. Wilson.

The President directed that the names of the deceased counsellors be transferred to the Book of the Dead; that Drs. C. G. Laslie and F. W. Pickell be stricken from the Roll of Active Counsellors; that Drs. P. J. M. Acker, M. Y. Dabney, B. S. Lester, D. T. McCall, H. B. Searcy, C. W. Shropshire and A. A. Walker be transferred to the Roll of Life Counsellors; and that to the Roll of Active Counsellors be added Drs. W. J. Barber, C. N. Carraway, Earle Conwell, C. G. Godard, G. O. Segrest, J. W. Simpson of Birmingham, and F. C. Wilson.

3. *Revision of the Roll of Correspondents*:

The names of Drs. Howard A. Kelly and George W. Crile, deceased, were stricken.

Dr. A. C. Furstenberg, the 1943 Jerome Cochran Lecturer was added.

4. *Revision of the Roll of Officers*:

Dr. Fred W. Wilkerson, Montgomery, was elected President; Dr. W. Hill McCaslan, Union Springs, Vice-President of the Southeastern Division for a term of four years; Dr. B. W. McNease, Fayette, Vice-President of the Northwestern Division for one year to fill the unexpired term of Merle E. Smith in service; and Drs. French Craddock and C. A. Thigpen, Censors for five years.

Committees constitutionally provided to nominate counsellors brought in the following nominations: 1st District—G. G. Oswalt, Paul Jones, J. Mac Bell; 2nd—F. W. Riggs, J. O. Lisenby; 3rd—E. T. Brunson; 6th—J. V. Howell, R. C. Hill, R. C. Partlow; 8th—W. C. Hatchett; 9th—Lloyd Noland, Ralph Morgan, G. A. Denison, J. A. Meadows, R. M. Pool, Hughes Kennedy, Jr.

Miscellaneous Business

The Association adopted a resolution introduced by Dr. J. O. Morgan of Gadsden expressing gratitude for the many courtesies shown it during the session.

President Wilkerson and other newly chosen officers were presented, whereupon the Association was declared adjourned to meet in Montgomery, April 18, 19 and 20, 1944.

THE ROLL OF COUNSELLORS

REVISION OF 1943

LIFE COUNSELLORS

Name and Address	Date of Election
Acker, Paul Jerome Morris, Mobile (1)	1923
Alison, Samuel Blakemore, Minter (4)	1919
Andrews, Glenn, Montgomery (2)	1893
Ashcraft, Virgil Lee, Reform (7)	1919
Bedsole, James G., Jackson (1)	1922
Bondurant, Eugene DuBose, Mobile (1)	1894
Burdeshaw, Shelby L., Headland (3)	1921
Caldwell, Edwin Valdivia, Huntsville (8)	1918
Chenault, Frank L., Decatur (8)	1917
Cunningham, William Moody, Jasper (7)	1912
Dabney, Marye Y., Birmingham (9)	1923
Davie, Mercer Stillwell, Dothan (3)	1904
Dowling, Judson D., Birmingham (9)	1922
Faulk, William M., Tuscaloosa (6)	1913
Gordon, Samuel A., Marion (6)	1913
Gragg, Vincent J., Clanton (6)	1921
Gresham, George L., Andalusia (2)	1913
Guice, Charles Lee, Gadsden (5)	1899
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (9)	1896
Hayes, Charles Philips, Elba (3)	1920
Hayes, Julius Pope, Clanton (6)	1920
Heacock, Jos. D., Birmingham (9)	1912
Heflin, Wyatt, Birmingham (9)	1893
Hill, Luther Leonidas, Montgomery (2)	1888
Hill, Robert Somerville, Montgomery (2)	1898
Howell, William Edward, Haleyville (7)	1918
Howle, James Augustus, Hartselle (8)	1895
Jackson, Alva A., Florence (8)	1918
James, Norman G., Hayneville (2)	1921
Leach, Sydney, Tuscaloosa (6)	1920
Lester, Belford S., Birmingham (9)	1923
Lightfoot, Phillip Malcolm, Shorter (3)	1918
Long, Clarence, Hurtsboro (3)	1920
Lull, Cabot, Birmingham (9)	1919
Lupton, Frank A., Birmingham (9)	1913
Martin, James Cordie, Cullman (7)	1917
Mason, James Monroe, Birmingham (9)	1918
Mayer, Kossuth Aaron, Lower Peach Tree (1)	1919
McAdory, Edward Dudley, Cullman (7)	1920
McCain, William Jasper, Livingston (6)	1898
McCall, Daniel T., Mobile (1)	1923
McLeod, John Calvin, Bay Minette (2)	1911
McLester, James Somerville, Birmingham (9)	1913
Mohr, Chas. A., Mobile (1)	1909
Partlow, William Dempsey, Tuscaloosa (6)	1909
Prince, Edward Mortimer, Birmingham (9)	1909
Ralls, Arthur W., Gadsden (5)	1919

Rucker, Edmon W., Birmingham (9)	1922
Sankey, Howard J., Nauvoo (7)	1914
Scott, Walter F., Birmingham (9)	1922
Searcy, Harvey Brown, Tuscaloosa (6)	1923
Shropshire, Courtney W., Birmingham (9)	1923
Sledge, Edward S., Mobile (1)	1922
Smith, Russell Aubrey, Brewton (2)	1918
Speir, Phillip V., Greenville (2)	1917
Talley, Dyer Findley, Birmingham (9)	1902
Thigpen, Charles Alston, Montgomery (2)	1900
Thomas, Eugene Marvin, Prattville (4)	1920
Waldrop, R. W., Bessemer (9)	1922
Walker, Alfred A., Birmingham (9)	1923
Ward, Henry Silas, Birmingham (9)	1915
Wilkerson, Fred Wooten, Montgomery (2)	1919
Wilkinson, David Leonidas, Birmingham (9)	1902

Total 64

ACTIVE COUNSELLORS

Those marked with a † are serving last terms of six years.

Those marked with an asterisk (*) are serving second terms of seven years.

Those without a symbol are serving first terms of seven years.

The numeral is the number of the congressional district.

	Date of Election	Expiration
Abbott, Chas. E., Tuscaloosa (6)	1938	to 1945
Acker, Charles T., Montevallo (6)	1937	to 1944
Alison, James F., Selma (4)	*1941	to 1948
Anderson, Thos. J., Greensboro (6)	*1940	to 1947
Austin, Burton F., Montgomery (2)	1941	to 1948
Barber, William J., Butler (1)	1942	to 1949
Belue, Julius O., Athens (8)	1937	to 1944
Boyd, Frank H., Opelika (3)	1939	to 1946
Bragg, John C., Decatur (8)	1941	to 1948
Brown, Elridge T., Cleveland (7)	1937	to 1944
Brunson, Emmett T., Samson (3)	*1943	to 1950
Cannon, Douglas L., Montgomery (2)	†1942	to 1948
Carraway, Chas. Newton, Birmingham (9)	1942	to 1949
Carter, William R., Repton (2)	*1941	to 1948
Chenault, Erskine M., Decatur (8)	*1942	to 1949
Cloud, Robert E., Ensley (9)	1941	to 1948
Cocke, William T., Demopolis (1)	1939	to 1946
Collier, James P., Tuscaloosa (6)	1940	to 1947
Conwell, H. Earle, Birmingham (9)	1942	to 1949
Craddock, French H., Sylacauga (4)	*1939	to 1946
Daves, James G., Cullman (7)	1938	to 1945
Davis, Lewis C., Gordo (7)	1939	to 1946
Eskew, M. H., Uniontown (6)	*1941	to 1948
Ford, Charles E., Roanoke (5)	1939	to 1946
Garber, James R., Birmingham (9)	*1939	to 1946
Gibson, Edward Lee, Enterprise (3)	1940	to 1947
Godard, Claud G., Fairhope (2)	1942	to 1949
Granger, F. G., Ashford (3)	†1942	to 1948
Gresham, Walter A., Russellville (7)	*1940	to 1947
Grote, Carl A., Huntsville (8)	1937	to 1944
Hagood, M. H., Brewton (2)	†1938	to 1944
Hatchett, Wm. C., Huntsville (8)	†1943	to 1949
Hill, Robert C., York (6)	*1943	to 1950
Hill, Robert L., Winfield (7)	†1938	to 1944
Hill, R. Lee, Haleyville (7)	1939	to 1946
Hodges, Rayford, Scottsboro (8)	*1942	to 1949
Howell, John V., Marion (6)	*1943	to 1950
Hubbard, T. Brannon, Montgomery (2)	†1938	to 1944
Isbell, Arthur L., Albertville (5)	1940	to 1947
Jackson, Albert Chas., Jasper (7)	1940	to 1947
Jones, Carl T., Newville (3)	1941	to 1948
Killian, Claud D., Ft. Payne (5)	1940	to 1947
Killingsworth, Noah W., Brundidge (2)	1939	to 1946
King, Chas. O., Birmingham (9)	1938	to 1945
Ledbetter, Samuel L., Jr., Birmingham (9)	*1942	to 1949

ACTIVE COUNSELLORS—Continued

	Date of Election	Expiration
Lewis, Walter A., Enterprise (3)	*1940	to 1947
Martin, John A., Montgomery (2)	*1940	to 1947
Mason, E. M., Birmingham (9)	†1938	to 1944
McCaslan, W. Hill, Union Springs (3)	1940	to 1947
Moore, C. W. C., Talladega (4)	1937	to 1944
Moore, David S., Jr., Birmingham (9)	*1939	to 1946
Morgan, J. Orville, Gadsden (5)	1939	to 1946
Noland, Lloyd, Fairfield (9)	†1943	to 1949
Oswalt, G. G., Mobile (1)	†1943	to 1949
Owings, W. J. B., Brent (6)	1941	to 1948
Parker, Lorenzo D., Andalusia (2)	*1940	to 1947
Perdue, James D., Mobile (1)	*1940	to 1947
Redden, Raymond Hollis, Sulligent (7)	†1940	to 1946
Riser, William H., Lafayette (5)	*1942	to 1949
Roan, Avery M., Decatur (8)	1941	to 1948
Salter, Wilbur M., Anniston (4)	*1941	to 1948
Scarbrough, B. C., Albertville (5)	*1942	to 1949
Segrest, Grady O., Mobile (1)	1942	to 1949
Sewell, John Ferris, Wetumpka (4)	1940	to 1947
Sherrill, John D., Birmingham (9)	1939	to 1946
Simpson, John W., Birmingham (9)	1942	to 1949
Simpson, Harry M., Florence (8)	1938	to 1945
Skinner, Marcus, Selma (4)	1939	to 1946
Smith, Gordon R., Ozark (3)	*1941	to 1948
Smith, Joe P., Eutaw (6)	1940	to 1947
Smith, Merle E., Parrish (7)	1938	to 1945
Stabler, Lorenzo V., Greenville (2)	1937	to 1944
Stallworth, William A., Frisco City (1)	1937	to 1944
Tankersley, James, Prattville (4)	†1942	to 1948
Taylor, Woodie R., Town Creek (8)	†1939	to 1945
Thacker, Vincent J., Dothan (3)	*1942	to 1949
Tillman, John S., Clio (3)	*1942	to 1949
Walls, J. J., Alexander City (5)	†1938	to 1944
Walsh, Groesbeck, Fairfield (9)	*1940	to 1947
Waters, Hinton W., Opp (2)	1939	to 1946
Watson, Jerre, Anniston (4)	1938	to 1945
Weil, Clarence K., Montgomery (2)	1937	to 1944
Welch, Stewart, Birmingham (9)	*1941	to 1948
Weldon, Joseph M., Mobile (1)	*1942	to 1949
White, Alexander L., Thomasville (1)	†1942	to 1948
Whiteside, Maurice S., Cullman (7)	1941	to 1948
Wilson, Frank C., Birmingham (9)	1942	to 1949
Wood, Wiley D., Camp Hill (5)	*1940	to 1947
Woodruff, Gerald G., Anniston (4)	1940	to 1947
Wright, David H., Berry (7)	*1939	to 1946

Total 90

COUNSELLORS-ELECT

Bell, J. Mac, Mobile (1)	1943	to 1950
Denison, George A., Birmingham (9)	1943	to 1950
Jones, J. Paul, Camden (1)	1943	to 1950
Kennedy, Hughes, Jr., Birmingham (9)	1943	to 1950
Lisenby, J. Otis, Atmore (2)	1943	to 1950
Meadows, James A., Birmingham (9)	1943	to 1950
Morgan, J. Ralph, Birmingham (9)	1943	to 1950
Partlow, Rufus C., Tuscaloosa (6)	1943	to 1950
Pool, Robert M., Birmingham (9)	1943	to 1950
Riggs, Frank W., Montgomery (2)	1943	to 1950

Total 10

THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly

more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1943, there were 1,596 members in the County Medical Societies. That would give one Counsellor to every 16 members. The membership set forth in the following is that of April 1.

FIRST DISTRICT

Names of Counsellors—W. T. Cocke, Marengo; W. J. Barber, Choctaw; A. L. White, Clarke; G. G. Oswalt, G. O. Segrest, J. M. Weldon, J. D. Perdue and J. Mac Bell, Mobile; W. A. Stallworth, Monroe; J. Paul Jones, Wilcox.

County	*Members*	*Counsellors*
Choctaw	7	1
Clarke	16	1
Marengo	14	1
Mobile	106	5
Monroe	9	1
Washington	3	0
Wilcox	10	1
	165	10

SECOND DISTRICT

Names of Counsellors—C. G. Godard, Baldwin; L. V. Stabler, Butler; W. R. Carter, Conecuh; L. D. Parker and H. W. Waters, Covington; M. H. Hagood and J. O. Lisenby, Escambia; T. B. Hubbard, F. W. Riggs, J. A. Martin, C. K. Weil, Douglas L. Cannon and B. F. Austin, Montgomery; and N. W. Killingsworth, Pike.

County	*Members*	*Counsellors*
Baldwin	11	1
Butler	14	1
Conecuh	8	1
Covington	20	2
Crenshaw	6	0
Escambia	15	2
Lowndes	6	0
Montgomery	101	6
Pike	16	1
	197	14

THIRD DISTRICT

Names of Counsellors—J. S. Tillman, Barbour; W. H. McCaslan, Bullock; E. L. Gibson and W. A. Lewis, Coffee; G. R. Smith, Dale; E. T. Brunson, Geneva; C. T. Jones, Henry; V. J. Thacker and F. G. Granger, Houston; and F. H. Boyd, Lee.

County	*Members*	*Counsellors*
Barbour	15	1
Bullock	7	1
Coffee	15	2
Dale	10	1
Geneva	15	1
Henry	8	1
Houston	29	2
Lee	20	1
Macon	7	0
Russell	6	0
	132	10

FOURTH DISTRICT

Names of Counsellors—James Tankersley, Autauga; W. M. Salter, Jerre Watson and G. G. Woodruff, Calhoun; J. F. Alison and Marcus Skinner, Dallas; J. F. Sewell, Elmore; and French Craddock and C. W. C. Moore, Talladega.

County	*Members*	*Counsellors*
Autauga	7	1
Calhoun	40	3
Clay	9	0
Coosa	3	0
Dallas	35	2
Elmore	13	1
St. Clair	13	0
Talladega	29	2
	149	9

FIFTH DISTRICT

Names of Counsellors—W. H. Riser, Chambers; C. D. Killian, DeKalb; J. O. Morgan, Etowah; A. L. Isbell and B. C. Scarbrough, Marshall; C. E. Ford, Randolph; and J. J. Walls and W. D. Wood, Tallapoosa.

County	*Members*	*Counsellors*
Chambers	16	1
Cherokee	3	0
Cleburne	3	0
DeKalb	17	1
Etowah	61	1
Marshall	19	2
Randolph	11	1
Tallapoosa	16	2
	145	8

SIXTH DISTRICT

Names of Counsellors—W. J. B. Owings, Bibb; J. P. Smith, Greene; T. J. Anderson, Hale; M. H. Eskew and J. V. Howell, Perry; C. T. Acker, Shelby; R. C. Hill, Sumter; and J. P. Collier, R. C. Partlow and C. E. Abbott, Tuscaloosa.

County	*Members*	*Counsellors*
Bibb	12	1
Chilton	12	0
Greene	7	1
Hale	7	1
Perry	11	2
Shelby	19	1
Sumter	15	1
Tuscaloosa	50	3
	133	10

SEVENTH DISTRICT

Names of Counsellors—E. T. Brown, Blount; J. G. Daves and M. S. Whiteside, Cullman; D. H. Wright, Fayette; W. A. Gresham, Franklin; R. H. Redden, Lamar; Robert L. Hill, Marion; L. C. Davis, Pickens; A. C. Jackson and M. E. Smith, Walker; and R. Lee Hill, Winston.

County	*Members*	*Counsellors*
Blount	12	1
Cullman	18	2
Fayette	9	1
Franklin	16	1
Lamar	12	1

Marion	15	1
Pickens	13	1
Walker	29	2
Winston	7	1
	131	11

EIGHTH DISTRICT

Names of Counsellors—Rayford Hodges, Jackson; H. M. Simpson, Lauderdale; W. R. Taylor, Lawrence; J. O. Belue, Limestone; W. C. Hatchett and C. A. Grote, Madison; and E. M. Chenault, J. C. Bragg and A. M. Roan, Morgan.

County	*Members*	*Counsellors*
Colbert	17	0
Jackson	14	1
Lauderdale	26	1
Lawrence	9	1
Limestone	14	1
Madison	27	2
Morgan	24	3
	131	9

NINTH DISTRICT

Names of Counsellors—S. H. Welch, J. D. Sherrill. E. M. Mason, Lloyd Noland, J. R. Garber, D. S. Moore, Jr., Groesbeck Walsh, C. O. King, S. L. Ledbetter, Jr., R. E. Cloud, C. N. Carraway, H. Earle Conwell, J. W. Simpson, F. C. Wilson. G. A. Denison, Hughes Kennedy, Jr., J. A. Meadows, Ralph Morgan and R. M. Pool.

County	*Members*	*Counsellors*
Jefferson	413	19

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counsellors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—*From the Constitution.*

Name and Address	*Date of Election*
Andrew J. Coley, Oklahoma City	1909
W. S. Thayer, Baltimore	1921
Lewellys F. Barker, Baltimore	1921
Rudolph Matas, New Orleans	1921
John B. Elliott, Jr., New Orleans	1921
Henry A. Christian, Boston	1921
H. A. Royster, Raleigh, N. C.	1926
Stewart Roberts, Atlanta	1927
G. Canby Robinson, Baltimore	1928
Louis B. Wilson, Rochester, Minn.	1930
A. Benson Cannon, New York	1932
J. Shelton Horsley, Richmond	1933
Russell L. Cecil, New York	1934
George H. Semken, New York	1935
Frank H. Lahey, Boston	1937
T. M. McMillan, Philadelphia	1938
George T. Pack, New York	1939
E. V. McCollum, Baltimore	1940
Harvey B. Stone, Baltimore	1942
Albert C. Furstenberg, Ann Arbor	1943

SCHEDULE OF THE ANNUAL SESSIONS AND PRESIDENTS SINCE THE REORGANIZATION IN 1868

Place and President	*Year*
Selma—Albert Galatin Mabry	1868
Mobile—Albert Galatin Mabry	1869
Montgomery—Richard Frazer Michel	1870
Mobile—Francis Armstrong Ross	1871
Huntsville—Thomas Childress Osborne	1872
Tuscaloosa—George Ernest Kumpe	1873
Selma—George Augustus Ketchum	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward Davies McDaniel	1877
Eufaula—Peter Bryce	1878
Selma—Robert Dickens Webb	1879
Huntsville—Edmond Pendleton Gaines	1880
Montgomery—William Henry Anderson	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel Parke	1883
Selma—Mortimer Harvey Jordan	1884
Greenville—Benjamin Hogan Riggs	1885
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelye	1887
Montgomery—Edward Henry Sholl	1888
Mobile—Milton Columbus Baldridge	1889
Birmingham—Charles Higgs Franklin	1890
Huntsville—William Henry Sanders	1891
Montgomery—Benjamin James Baldwin	1892
Selma—James Thomas Searcy	1893
Birmingham—Thaddeus Lindley Robertson	1894
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma—Barckley Wallace Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry Altamont Moody	1899
Montgomery—John Clarke LeGrande	1900
Selma—Russell McWhorter Cunningham	1901
Birmingham—Edwin Lesley Marechal	1902
Talladega—Glenn Andrews	1903
Mobile—Matthew Bunyan Cameron	1904
Montgomery—Capers Capehart Jones	1905
Birmingham—Eugene DuBose Bondurant	1906
Mobile—George Tighlman McWhorter	1907
Montgomery—Samuel Wallace Welch	1908
Birmingham—Benjamin Leon Wyman	1909
Mobile—Wooten Moore Wilkerson	1910
Montgomery—Wyatt Heflin Blake	1911
Birmingham—Lewis Coleman Morris	1912
Mobile—Harry Tutwiler Inge	1913
Montgomery—Robert S. Hill	1914
Birmingham—Benjamin Britt Simms	1915
Mobile—James Norment Baker	1916
Montgomery—Henry Green	1917
Birmingham—William Dempsey Partlow	1918
Mobile—Isaac LaFayette Watkins	1919
Anniston—James Somerville McLester	1920
Montgomery—Louis William Johnston	1921
Birmingham—Dyer F. Talley	1922
Mobile—Walter S. Britt	1923
Montgomery—W. W. Harper	1924
Birmingham—J. D. Heacock	1925
Mobile—C. A. Mohr	1926
Montgomery—A. L. Harlan	1927
Birmingham—John D. S. Davis	1928
Mobile—E. V. Caldwell	1929
Montgomery—L. E. Broughton	1930

Place and President	*Year*
Birmingham—W. G. Harrison	1931
Mobile—Toulmin Gaines	1932
Montgomery—Samuel Kirkpatrick	1933
Birmingham—James R. Garber	1934
Mobile—William M. Cunningham	1935
Montgomery—Charles A. Thigpen	1936
Birmingham—Lloyd Noland	1937
Mobile—E. S. Sledge	1938
Montgomery—Seale Harris, Sr.	1939
Birmingham—M. S. Davie	1940
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1897-1904	G. P. Waller
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1930-1940	Douglas L. Cannon

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1940-	Douglas L. Cannon

SCHEDULE OF JEROME COCHRAN LECTURERS

1899—J. T. Searcy, Tuscaloosa—What Is Insanity?

1900—Wm. Osler, Baltimore—Not present.

1901—Wm. Osler, Baltimore—Not present.

1902—Nathan Bozeman, New York—Declined.

1903—George H. Price, Nashville—The History of Medicine.

1904—W. S. Thayer, Baltimore—Cardiac and Vascular Complications of Typhoid Fever.

1905—Robert Abbe, New York—The Problems of Surgery.

1906—Joseph Collins, Boston—Arteriosclerosis.

1907—Nicholas Senn, Chicago—Final Triumph of Scientific Medicine.

1908—E. L. Marechal, Mobile—Absent.

1909—Lewellys F. Barker, Baltimore—Clinical Methods of Cardiac Investigation.

1910—Frank S. Meara, New York—Some Problems of Nutrition in Early Life.

1911—Rudolph Matas, New Orleans—Inflammatory Tuberculosis.

1912—Maurice H. Richardson, Boston—Elimination of Preventable Disasters from Surgery.

1913—L. L. Hill, Montgomery—Surgical Complications and Sequelae of Typhoid Fever.

1914—Frank Smithies, Chicago—Contributions of the Twentieth Century to the Better Understanding of Gastric Cancer.

1915—John B. Elliott, Jr., New Orleans—Abscess of Liver.

1916—Howard A. Kelly, Baltimore—Radium Therapy.

1917—Wm. J. Mayo, Rochester—Importance of Septic Infection in the Three Great Plagues.

1918—George E. Bushnell, Washington—The Army in Relation to the Tuberculosis Problem.

1919—George W. Crile, Clevland, Ohio—Abdominal Surgery in Civil and Military Hospitals.

1920—Henry A. Christian, Boston—Bright's Disease With Special Reference to Its Treatment.

1921—J. Whitridge Williams, Baltimore—A Critical Review of Twenty-One Years' Experience with Caesarean Section.

1922—Chas. H. Mayo, Rochester, Minn.—The Thyroid and Its Diseases.

1923—Jas. S. McLester, Birmingham—Nutrition in Its Newer Aspects.

1924—James S. Stone, Boston—Abdominal Diagnoses in Children.

1925—H. A. Royster, Raleigh—The Surgeon's Heritage and Outlook.

1926—Stewart Roberts, Atlanta—The Heart Muscle.

1927—G. Canby Robinson, Baltimore—The Mechanism of Heart Failure and Its Correction.

1928—John B. Deaver, Philadelphia—Chronic Pancreatitis.

1929—Louis B. Wilson, Rochester, Minn.—Some Suggestions for Improved Training of Medical Specialists.

1930—Walter E. Sistrunk, Dallas, Texas—The Part That Surgical Anesthesia Has Played in Medical Science.

1931—R. S. Cunningham, Nashville, Tenn.—Studies on the Pathology of Tuberculosis and Syphilis.

1932—A. Benson Cannon, New York—Practical Points on the Diagnosis and Treatment of the so-called Lymphoblastoma Group of Diseases.

1933—J. Shelton Horsley, Richmond—Cancer of the Stomach and Colon.

1934—Russell L. Cecil, New York—Present Trends in the Study of Rheumatic Fever and Rheumatoid Arthritis.

1935—George H. Semken, New York—A Consideration of Tumors of the Breast.

1936—William D. Partlow, Tuscaloosa—A Debt the World Owes Medical Science.

1937—Frank H. Lahey, Boston—Carcinoma of the Colon and Rectum.

1938—T. M. McMillan, Philadelphia—An Optimistic View of Some of the Problems of Heart Disease.

1939—George T. Pack, New York—Recent Advances in the Radiation Therapy of Cancer.

1940—E. V. McCollum, Baltimore—Some Contributions of Nutritional Research to Clinical Medicine.

1941—M. Y. Dabney, Birmingham—The Story of Breast Cancer.

1942—Harvey B. Stone, Baltimore—Biliary Diseases as Seen by a Surgeon.

1943—A. C. Furstenberg, Ann Arbor—Objectives in Medical Education.

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SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1914	16	67	85	226	20	414	Montgomery
1915	32	74	108	429	49	692	Birmingham
1916	19	66	92	106	41	306	Mobile
1917	18	64	96	199	32	409	Montgomery
1918	27	63	80	257	44	471	Birmingham
1919	22	43	87	94	102	348	Mobile
1920	16	61	59	85	51	272	Anniston
1921	26	65	73	183	58	405	Montgomery
1922	26	72	76	314	68	556	Birmingham
1923	14	48	66	106	50	284	Mobile
1924	29	70	84	230	79	492	Montgomery
1925	27	78	97	328	113	643	Birmingham
1926	33	74	105	194	131	537	Mobile
1927	36	85	104	252	87	564	Montgomery
1928	33	77	108	507	106	831	Birmingham
1929	19	60	102	176	109	466	Mobile
1930	32	83	106	286	102	609	Montgomery
1931	26	80	116	410	158	790	Birmingham
1932	19	60	101	158	133	471	Mobile
1933	21	74	103	264	85	547	Montgomery
1934	26	75	97	404	53	655	Birmingham
1935	15	59	91	180	83	428	Mobile
1936	23	79	95	265	68	530	Montgomery
1937	25	80	96	396	81	678	Birmingham
1938	18	65	78	157	63	381	Mobile
1939	29	79	96	326	84	614	Montgomery
1940	29	77	105	401	229	841	Birmingham
1941	29	66	86	211	91	483	Mobile
1942	33	75	105	249	82	544	Montgomery
1943	31	71	83	321	127	633	Birmingham

BOOK ABSTRACTS AND REVIEWS

Fractures of the Jaws and Other Facial Bones. By Glenn Major, B. S., A. M. (in Pathology), M. S. (in Experimental Surgery), Ph. D. (in Surgery), D. D. S., M. D., F. A. C. S., Pittsburgh; With Chapters on Radiographic Technic by Lester M. J. Freedman, B. S., M. D., Now Acting Director, Department of Radiation Therapy, The Western Pennsylvania Hospital, Pittsburgh; and War Aspects of Jaw Fractures by Arthur Dick, D. D. S., M. D., Major, Medical Corps, Army of the United States. Cloth. Price, $7.50. Pp. 446 with 225 illustrations. St. Louis, Missouri, C. V. Mosby Company, 1943.

This new text on fractures of the jaws and other facial bones adds another good book to this already well written about subject. This book, however, differs from similar texts in that it is essentially a basic presentation of the subject, written in true primer style. There seems to be two chief aims in the book and these are: (1) to impress the physician with the absolute necessity of the restoration of the proper occlusion of teeth following fractures of the jaws, and (2) to acquaint the dental surgeon with the newer concepts of the principles involved in the mechanism of the repair of fractures. The various types of immobilization are discussed with suggestions as to their usefulness as well as to their contraindications. The monograph is introduced by a brief discussion of the anatomy and physiology of the structures involved, but perhaps it is too brief to be entirely useful. The discussion of the proper occlusion of teeth is well stressed and thoroughly covered. The various methods of the management of fractures are fully described, but the author's methods would appeal more to the dental surgeon than to the medical surgeon, particularly the long drawn out chapters on wiring of teeth. The illustrations, many of which are diagrammatic, are above the average and simplify the text matter. The style is pleasant and the subject matter is well arranged. The print is large and for a first edition there are less typographical errors than are usually encountered. There is considerable padding of the text particularly in defining simple terms which need no defining, but even this does not detract too much from the book. The last three chapters are interesting in that they discuss the radiographic, medicolegal, and war aspects of fractures of the jaws and facial bones. The book is authoritatively written and should be favorably received by both the dental and surgical practitioners who do this type of work.

Philip K. Burwell.

Indigestion: Its Diagnosis and Management. By Martin E. Rehfuss, M. D., Professor of Clinical Medicine, and Sutherland M. Prevost, Lecturer in Therapeutics, Jefferson Medical College, Philadelphia. Cloth. Price, $7.00. Pp. 556. Philadelphia and London: W. B. Saunders Company, 1943.

Rarely in medicine is a book prepared of such a nature that the general practitioner can sit down and read it from cover to cover. This monograph is one of those rare editions.

It is based on 30 years of active practice in gastro-enterology by Dr. Martin E. Rehfuss, summarizing the facts in a most entertaining and fascinating manner. Dr. Rehfuss writes in the first person so that the volume reads like a novel. He does not hesitate to quote his own failures and errors as well as his successes.

The subject of indigestion is one of the most common complaints that brings a patient to the physician. Indigestion may mean "lack of digestion," or "failure of digestion," or "incomplete," "difficult," or "painful" digestion, a vast category of conditions which the patient lumps together as indigestion. The cause may be in the digestive tract, it might be in the central nervous system, or it may be reflex, toxic, etc. This behooves the physician who is consulted regarding this discomfort in the upper abdomen to be an alert diagnostician and clinician.

The use of the stomach tube is strongly stressed. This is to be expected. The x-ray study and finally gastroscopy are then emphasized. The problem of diagnosing the upper abdominal discomfort (indigestion) is dealt with simply, logically and completely. The history as given by the patient is in detail and in itself is most suggestive: the time of discomfort, the nature of relief, the recurrence, the patient's own observations—all are to be elicited in this history.

Gastric and duodenal intubation are described in detail. More important, however, is the author's careful analysis of the findings and their interpretations. The diagrams and illustrations are profuse. Stress is laid upon the "digestive period" since therapy is directed towards correction or alteration of this phase of digestion. In x-ray examinations Dr. Rehfuss is in agreement with other authors that the use of the fluoroscope reveals much more than the taking of x-rays. The diagnosis, therefore, rests a great deal with the fluoroscopist rather than with the x-ray film. He favors the two-meal method and the six-hour examination. The x-ray reproductions are excellent, whereas the addition of arrows on reproductions is a feature well recommended for other authors who present x-ray pictures.

After the diagnostic procedures the text deals with the various types of indigestion such as that which is caused by (1) nervousness, (2) allergy, (3) infection, (4) functional disturbances of the stomach, etc., including muscular walls and its glandular secretions, (5) chronic gastritis, (6) ulcers, (7) malignancy, (8) biliary tract, (9) intestinal disease, (10) cardio-vascular disease, (11) menopause and (12) senility.

Two chapters relative to war medicine are added: one entitled "Indigestion in War Time" and the other "Gastric Disturbances in Aviation."

Foods are dealt with individually and here Dr. Rehfuss dispels many of the old ideas about incompatibility, methods of preparations, types of cuts of meat, etc. In some respects he is revolutionary.

Finally, the monograph contains the fundamental principles of diet in each of the diseases en-

countered—not merely a list of menus, but the actual method of preparation step by step, the indications and contraindications for each disease as that disease may affect indigestion.

Throughout the early chapters Dr. Rehfuss often refers to the classical literature, famous paintings, etc., indicating Dr. Rehfuss's widespread interests outside of medicine. Italics everywhere emphasize facts and are most impressive to the reader.

The reviewer without hesitation recommends that every physician read this monograph on the clinical symptom—indigestion—by Dr. Martin E. Rehfuss.

Norman Van Wezel.

Clinical Diagnosis by Laboratory Methods. By James Campbell Todd, Ph. B., M. D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A. M., M. D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Division of Clinical Laboratories, Mayo Clinic. Tenth edition, thoroughly revised. Cloth. Price, $6.00. Pp. 911, with 380 illustrations, 32 in colors. Philadelphia and London: W. B. Saunders Company, 1943.

The tenth edition of Todd and Sanford's widely known book is of necessity larger than any of the previous editions. This is due to the increase in new material, both research and clinical. The tenth edition contains a great deal of new material and serves as a "gold mine" of information.

Among the new items included are the fluorescent dye method of staining tubercle bacilli, which is becoming more and more popular. The study of porphyrins in the urine as related to pellagra is included. Of course, the blood determinations of sulfonamide concentrations are included, as well as the recognition and identification of the crystals in the urine. The quick prothrombin test has been added as well as various new technical procedures.

The entire volume is well arranged, dealing first with the microscope and then with the various types of specimens obtained and their complete examination. Following this is a brief section on the chief findings in each disease and finally is a rather extensive discussion of the various serologic diagnostic tests for syphilis.

Throughout the book there are excellent colored plates; probably the best are those of blood cells. For example, plates 1 and 6 are perfect reproductions.

The technique of sternal punctures is described as though the procedure were very simple, which in actual practice is not so. The study of bone marrow smears requires considerable practice. However, the procedure is becoming more popular clinically. The usual clinical examinations of the blood are adequately described and include all of the standard acceptable procedures.

The text is well arranged with very few typographic errors. The most glaring one which may not occur in all volumes is the inclusion of two pages 655.

Without question, however, each edition of Todd and Sanford's "Clinical Diagnosis by Laboratory Methods" makes it a more valuable addition to the physician's library.

Norman Van Wezel.

Brucellosis in Man and Animals. By I. Forest Huddleson, D. V. M., M. S., Ph. D., Research Professor in Bacteriology, Michigan State College. Contributing Authors: A. V. Hardy, M. S., M. D., Dr. P. H., Associate Professor of Epidemiology, DeLamar Institute of Public Health, Columbia University Medical School; Consultant, U. S. Public Health Service. J. E. DeBono, M. D., M. R. C. P., Professor of Pharmacology and Therapeutics, Royal University of Malta. Ward Giltner, D. V. M., M. S., Dr. P. H., Dean of Veterinary Division and Professor of Bacteriology, Michigan State College. Cloth. Price, $3.50. Pp. 379. New York: The Commonwealth Fund, 1943.

This is a revision of the book by Dr. Huddleson on "Brucella Infections in Animals and Man" but it is more than just a revision. The original publication was primarily a laboratory book but this one has been expanded to include the clinical picture of Brucellosis. The laboratory diagnosis has been brought up to date and the general question of diagnosis and treatment in man receives due consideration. The advantages and limitations of brucellin, brucellergen and the opsonocytophagic test are authoritatively handled. The varied manifestations of Brucella infections make it a difficult disease to diagnose in many instances and equally difficult to evaluate treatment procedures but this book should be extremely valuable to the physician faced with the infection. For the veterinarian there is a complete description of the infection in animals.

D. G. Gill.

Chemotherapy of Gonococci Infections. By Russell D. Herrold, B. S., M. D., Associate Professor of Surgery (Urology), College of Medicine, University of Illinois, Chicago, Illinois. Cloth. Price, $3.00. Pp. 137. St. Louis: C. V. Mosby Company, 1943.

The author in his introduction states "It is my belief that any routine procedures that are recommended for the management of gonococcic infections should at present writing be streamlined as far as possible and stripped of all unnecessary accessories." This volume is a streamlined book dealing with the diagnosis and treatment of gonorrhea in the male and female. The sulfonamide drugs used in treatment of gonorrhea are quite ably discussed.

This book is sufficiently short to be quickly read by the busy practitioner.

W. H. Y. Smith.

MISCELLANY

LITTLE PENICILLIN AVAILABLE FOR CIVILIANS IN NEAR FUTURE

NEW POWERFUL WEAPON AGAINST INFECTION IS DIFFICULT TO MAKE, ARMED FORCES' NEEDS MUST COME FIRST, REPORT POINTS OUT

Despite the fact that some sixteen companies are engaged or about to become engaged in the production of penicillin, a substance which research indicates may be one of the most powerful weapons yet discovered against certain types of infections, supplies of the substance for the near future will be almost entirely limited to the armed forces because of the great difficulties involved in its large scale production, it is re-

ported in The Journal of the American Medical Association for May 22.

In a statement released by the Committee on Medical Research of the Office of Scientific Research and Development, A. N. Richards, M. D., chairman, says that "Unless an expansion of production takes place at a greater rate than can now be foreseen, the supply for civilian medical needs in the near future will be exceedingly limited.

"Six weeks ago arrangements were made by the Surgeon General of the Army for clinical tests (of penicillin) at the Bushnell General Hospital, Brigham City, Utah. There were to be found among soldiers returned from the pacific area many cases of unhealed compound fractures, osteomyelitis and wounds with long established infections. The results have been so encouraging that plans are now in process for undertaking similar wound studies in ten general army hospitals and venereal disease studies in six. A similar though less extensive plan will be pursued by the Navy.

"The results of these investigations thus far have completely upheld the early promise contained in the reports of . . . (the first investigators). More than 300 patients have been or are being treated with penicillin. There is good reason for the belief that it is far superior to any of the sulfonamides in the treatment of Staphylococcus aureus infections with and without bacteremia, including acute and chronic osteomyelitis, cellulitis, carbuncles of the lip and face, pneumonia and empyema, infected wounds and burns. It is also extremely effective in the treatment of hemolytic streptococcus, pneumococcus and gonococcus infections which are resistant to sulfonamides. . . Studies of the results of its local application are still inadequate.

"Properly made preparations have given no toxic reactions, even from the largest dosage. Its rapid excretion in the urine necessitates frequent administration when given intravenously or intramuscularly."

The statement, published in the Medicine and the War Section of The Journal, explains that it "is designed to acquaint the medical profession with the progress of efforts which are being made by the Committee on Medical Research of the Office of Scientific Research and Development, by the Division of Medical Sciences of the National Research Council and by certain commercial companies to promote investigation of the therapeutic usefulness of penicillin and to increase the available supply of this remarkable substance. They were initiated and are continuing as a phase of the war effort, directed primarily toward the benefit of our armed forces. . ."

Penicillin, discovered by Alexander Fleming in London, England, in 1929, is made by a mold known as Penicillium notatum. Although some sixteen companies are or intend to become engaged in its production, "in no instance," Dr. Richards says, "has production advanced beyond the pilot plant stage; in the majority it is still in the laboratory stage.

"The difficulties which confront large scale production are very great. They arise chiefly from the fact that in the metabolism of the mold only very minute amounts of penicillin are formed and those only after days of growth. A yield of as much as 1 gram of the purified product from 20 liters of culture fluid would be regarded as exceptionally high. In impure solutions penicillin is unstable; it is destroyed by bacterial or other contaminations to which the culture fluids are highly susceptible. Difficulties have been encountered in choosing the most productive strains of the mold and the most suitable culture mediums, in the development of methods for extraction and purification and in stabilization of the purified product.

"The first clinical tests of penicillin in this country were reported by Dawson of Columbia in 1941. Other supplies became available in 1942, and in June of that year the Committee on Chemotherapeutic and Other Agents of the National Research Council, under the chairmanship of Dr. Chester S. Keefer, was invited to organize and supervise clinical investigations in selected hospitals, the records to be coordinated by Dr. Keefer and his committee. The costs of these studies, now proceeding in some twenty civilian institutions, are provided by contract with the Office of Scientific Research and Development, recommended by the Committee of Medical Research. The results will be published in due course.

"The work of the coming three months can be expected to result in clearer definition of the conditions in military medicine in which penicillin will be most useful, of its

limitations and of the most advantageous as well as the most economical methods of its administration. At the same time intense efforts are being made by manufacturers to expand production to a point at which it may be made available in significant quantities not only for casualties returned to this country but also for our forces overseas. . ."

ADVICE TO ANGLERS ON THE REMOVAL OF FISH HOOKS

"By all odds the 'push through' method is the best one for the removal of a fish hook in which the barb has gone in beneath the skin," it is advised in The Journal of the American Medical Association for May 22. "Circumstances can conceivably arise in which it would require pushing the fish hook through a considerable distance by a curved route before the barb emerges from the skin. When this occurs, it would seem better to make a small incision down to the barb before pulling it out backward."

The foregoing is in answer to a question from a physician regarding a statement published in a fishing magazine wherein it was advised that one "take a pair of small nosed pliers, take a good hold on the hook yourself or have some one officiate for you, and yank. . ."

POINTS TO THE FALSE ECONOMY IN MISUSE OF PRESCRIPTIONS

SUCH PRACTICES ACTUALLY MEAN THROWING AWAY TIME AND MONEY ON UNNECESSARY ILLNESS, PHYSICIAN POINTS OUT IN HYGEIA

"In these days few people can afford to throw away time or money on unnecessary illness, yet that is what they are doing when they misuse prescriptions," Austin E. Smith, M. D., Chicago, declares in Hygeia, The Health Magazine for June. "Millions of dollars are spent needlessly when nothing is physically wrong with people or when something is seriously wrong but proper medical advice is sought too late," he explains. "It is well to remember that the harmful effects of drugs do not come from their use under proper medical supervision but from their indiscriminate use. . ."

A prescription, Dr. Smith says, is a written order for the preparation and administration of one or more drugs. It is written by the physician for a definite purpose and is intended for the treatment of a specific disease or for the relief of a specific symptom in one individual. Thus a prescription cannot be used for a wide variety of diseases, nor can it be used by a large number of people.

"There are several obvious reasons for this," he continues. "Two diseases causing similar symptoms may be entirely different in nature. The dose of the drug may be entirely different for two people; in some persons one dose is satisfactory, while in others it is not enough and in still others it is too much. Some people are sensitive to drugs, and what may be a satisfactory amount for one patient may produce severe reactions in another. . . Further, drugs may act differently in different people. They are absorbed and excreted at varying rates. The dose is affected by age, body weight, sex, time of administration, method of administration and excretion. For example, children are more sensitive to drugs than are adults, and women are often more susceptible to the action of certain drugs than are men.

"When a physician writes a prescription, he puts in it certain directions which have resulted from a careful study of the patient's troubles and needs. Each written word has a specific meaning and bears a definite instruction which the pharmacist observes when he fills the prescription. Some of the physician's directions are reproduced on the label, but those which relate to the choice of drugs, their preparation and intended use are necessarily absent. . ."

"The only proper use for a prescription is when it is administered to the patient as prescribed by the physician. Misuse consists of not following the physician's directions as to size and frequency of dose, and of using the prescription for other ailments or other patients. . .

"When a prescription is no longer of use to the patient, it should be discarded. There is nothing to be gained by keeping a bottle of medicine that was compounded some years ago. . . The active ingredients of the prescription, especially if it is in liquid or ointment form, may have lost their therapeutic value; furthermore, any new or similar appearing condition may require a different medicine. . ."

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Volume 12

July 1942-June 1943

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THE RISING CURVE OF PEPTIC ULCER IN WAR

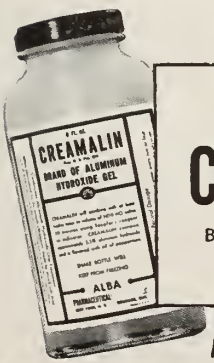
"Peptic Ulcer ranks high as a cause of disability for military service. It . . . leads all other digestive diseases as a cause for discharge from the Regular Army."

Kantor, J. L.: Digestive Disease and Military Service, Jnl. A. M. A., Sept. 26, 1942.

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Miscellany

REPORT A TREATMENT REGIMEN FOR BARBITURATE POISONING

THREE DOCTORS CITE RECOVERY OF WOMAN WHO, IN SUICIDE ATTEMPT, TOOK UPPER LIMIT OF WHAT IS CONSIDERED AVERAGE FATAL DOSE

High estimated or known dosages of the barbiturates, taken in suicidal attempts or otherwise, need not discourage heroic treatment but the latter must be immediate, include several suitable measures and must be sustained, C. J. France, M. D.; Morton Barnett, M. D., and F. F. Yonkman, M. D., Detroit, point out in The Journal of the American Medical Association for May 15.

They report the recovery of a woman who, in an attempt to commit suicide, took the upper limit of what is considered to be the average fatal dose. She was given picrotoxin and metrazol, to which the recovery is chiefly attributed. Caffeine with sodium benzoate and plasma with 5 per cent dextrose and saline solution also were administered.

"Barbital," the three physicians say, "in its various forms has been responsible for numerous suicidal attempts, many of them successful. The unsuccessful cases can be attributed to either insufficient dosage ingested or to proper antagonistic therapy as is illustrated by the case reported here. . . ."

To emphasize the importance of their report, they point out that in 1939 it was stated "that more than two million doses of barbiturates were sold daily in the United States and that from 1932 to 1936 the national incidence of suicide by means of barbiturates was 4.2 per cent of that for all poisons except gases; the incidence in large cities ranged from 2 to 16 per cent. These figures also behoove us to concern ourselves with the most satisfactory modern and accepted form of therapy in barbiturate poisoning. . . ."

The woman whose recovery they describe, aged 32, was admitted to the hospital in shock one hour after she had taken a mixture of soluble pentobarbital and seconal.

"We believe this case to be of considerable interest chiefly because it demonstrates the value of immediate and persistent combined specific therapy," they say.

In their summary the three physicians say that "For successful treatment of barbiturate poisoning the following points should be strictly followed:

"Immediate antagonistic treatment with adequate and safe initial doses of picrotoxin and metrazol, dosage to depend on the condition of the patient and the amount of barbiturate ingested, if known.

"Immediate hospitalization with prompt antishock therapy, including plasma, dextrose, saline solution . . . warmth and bed stilts, and any other agent or technic which might assist in the defeat of shock and promote excretion.

"Copious . . . enemas and early gastric lavage followed by . . . sodium sulfate solution left in the stomach for catharsis. . . .

"Constant observation with appropriate, sustaining and alternating doses of picrotoxin and metrazol, dosage again depending on the condition of the patient. . . .



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AVIDIN, BIOTIN AND CANCER

No effect was noted on the expected course of 2 patients with cancer who were fed for thirty weeks from sixteen to forty times the amounts of avidin necessary to prevent the utilization of the limited amounts of biotin in their diets, C. P. Rhoads, M. D., and Jules C. Abels, M. D., New York, report in The Journal of the American Medical Association for April 17. Recently several types of cancer have been reported to contain abnormally high concentrations of biotin, suggesting the possibility that if biotin should be withheld from patients with cancer, the growth of the latter might be decreased.

SNAKE VENOM AND INTELLIGENCE

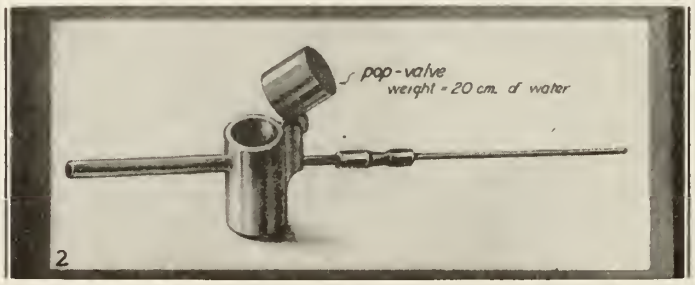
"Record has not been found in the scientific medical literature concerning the treatment of insanity with snake venom," The Journal of the American Medical Association for May 29 says in response to a query.

A physician in Peru wrote The Journal as follows:

"The bushmaster snake with neurotoxic venom is found in the jungles of eastern Peru. At a mission on the Perene River I saw a normal Indian who had recovered from the bite and who was said to be more intelligent than previously. This is the usual result. How does this compare with the use of snake venom in the treatment of insanity?"

Regarding snake venom and intelligence, The Journal says: "One snake dealer has been treated for five different bites and his wife for seven bites. Since they continue to handle snakes after being bitten five and seven times respectively, this seems to offer conclusive proof that this venom has not given them any excess of intelligence. There is no evidence that the snake handlers in carnivals appear to possess superior mentality, and horses which are used to make antiserum do not form an especially happy looking lot."

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